

**United States Department of the Interior
Bureau of Land Management**

**Environmental Assessment
DOI-BLM-CO-N05-2017-0056**

**Gather and Removal of Excess Wild Horses
Outside of the Piceance-East Douglas Herd Management Area**

**June 2017
Preliminary Environmental Assessment**

U.S. Department of the Interior
Bureau of Land Management, Northwest District
White River Field Office
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1. INTRODUCTION

1.1. Identifying Information

Project Title: Gather of Excess Wild Horses Outside of the Piceance-East Douglas Herd Management Area

Legal Description: 6th Principal Meridian, Rio Blanco County, Colorado

Portions of (refer to Map 1):
Township 3 North, Ranges 99 and 100 West
Township 2 North, Ranges 96 to 101 West
Township 1 North, Ranges 94 to 101 West
Township 1 South, Ranges 94 to 101 West
Township 2 South, Ranges 94 to 101 West
Township 3 South, Ranges 94 to 102 West
Township 4 South, Ranges 94 to 102 West
Township 5 South, Ranges 94 to 102 West

NEPA Document Number: DOI-BLM-CO-N05-2017-0056-EA

1.2. Background

The analysis area (gather area) includes areas within the White River Field Office (WRFO) where any potential exists for excess wild horses to relocate outside of the Piceance-East Douglas Herd Management Area (PEDHMA), specifically west of Highway 13, south of Highway 64, east of State Highway 139, and north of the WRFO boundary. The analysis area is located primarily within Rio Blanco County but includes portions of Garfield County. The analysis area totals approximately 773,213 acres of which 517,288 acres is BLM administered public land, 18,193 acres is State land, and 237,732 acres is privately owned. The analysis area totals approximately 29 percent of all of the lands within the WRFO jurisdiction. The predominant land uses within the analysis area are livestock grazing, recreation, and energy development.

The map for the analysis area (which also depicts the relation of the analysis area to the PEDHMA) is located in **Appendix A**, Map 1.

The PEDHMA is the only area identified in the WRFO for long-term management of wild horses. The PEDHMA itself is comprised of approximately 190,130 acres, including 158,310 acres of public land, 5,330 acres of State land, and 26,490 acres of private property.

The most recent inventory of wild horses in the PEDHMA was conducted in February 2016 but included only a portion of areas located outside of the PEDHMA boundary (specifically in the Cathedral/Lake/Soldier Creek drainages). During that inventory 44 wild horses were counted in the Cathedral/Lake/Soldier Creek drainages, outside of the PEDHMA; with an estimated 20

percent foal recruitment in 2016 and again in 2017, the BLM estimates that 64 wild horses have relocated outside of the PEDHMA in this area specifically. Although, the February 2016 inventory did not include any other areas located outside of the PEDHMA based on past history and on the ground sightings in other areas, the BLM estimates 214 excess wild horses will be located outside of the PEDHMA (east of State Highway 139) by the end of year 2017.

This Environmental Assessment (EA) specifically considers the methods to be used to gather and remove excess wild horses that reside outside of the PEDHMA. The BLM is preparing this EA to disclose and analyze the environmental consequences of the methods used to gather and remove excess wild horses located outside of the PEDHMA in compliance with the National Environmental Policy Act (NEPA). The EA is a baseline document for potential future wild horse removals outside the HMA over the next several years that could include using helicopters and/or bait- and water-trapping. It specifically includes a proposed helicopter gather this fall to remove 72 wild horses outside the HMA.

1.3. Purpose and Need for Action

This EA is a site-specific analysis of potential impacts that could result with the implementation of the Proposed Action or alternatives to the Proposed Action.

The need for this action is that the BLM has determined that excess wild horses exist on lands outside of the PEDHMA, requiring that they be gathered and removed. This determination is based on the White River Resource Management Plan (RMP) and any other information, and in accordance with The Wild Free-Roaming Horses and Burros Act of 1971, as amended (the Act).

After a careful review of the current land use plan, the WRFO Field Manager concluded that all wild horses that have relocated outside of the PEDHMA are excess animals, as defined in the Act, 16 U.S.C. 1332(f), and the BLM Manual Sec. 4720.12 (*“Excess animals are defined as those animals which must be removed from an area to preserve and maintain a thriving natural ecological balance (TNEB) and multiple-use relationship in that area. This definition includes wild horses or burros located outside of the HMA in areas not designated for their long term maintenance.”*)

Based on this review, the WRFO Field Manager has concluded that an overpopulation exists and that the gather and removal is necessary to remove excess animals in accordance with the authority provided in The Act, 16 USC § 1333 (b) (2), which provides that upon those findings, the BLM shall immediately remove excess animals from the range. The BLM has determined that all of the wild horses that reside outside the PEDHMA are excess animals that require removal in order to comply with existing land use planning decisions set forth in the White River Resource Management Plan (Record of Decision, July 1997) and the Act.

Gather and removal operations shall be conducted until excess animals have been removed in order to restore a thriving natural ecological balance and protect the range from deterioration associated with an overpopulation of wild horses. The Act also provides that “If wild free-

roaming horses or burros stray from public lands onto privately owned land, the owners of such land may inform the nearest Federal marshal or agent of the Secretary, who shall arrange to have the animals removed.” (Section 1334, as amended). BLM’s management of WH&B must comply with law and policy.

1.4. Decision to be Made

Upon completion of this EA, the Authorized Officer (AO) will make a determination as to whether any “significant” impacts could result from the implementation of these actions. “Significance” is defined by the National Environmental Policy Act (NEPA) and is found in regulation 40 CFR 1508.27. An EA provides evidence necessary to determine whether a significant impact exists. If the BLM determines that the proposal would result in a “significant” impact, then the BLM would prepare an Environmental Impact Statement (EIS) for the project. If the AO determines that this project does not have “significant” impacts following the analysis, then the BLM would prepare and sign a “Finding of No Significant Impact” and Decision Record which implements the agency’s selected alternative.

Based on the analysis contained in this EA, the AO will decide whether to approve or deny the Proposed Action to begin to gather and remove excess wild horses from outside of the PEDHMA, and if so, under what terms and conditions. Under the NEPA, the BLM must determine if there are any significant environmental impacts associated with the Proposed Action.

The objective of the action is to remove excess wild horses from outside of the PEDHMA so that a thriving ecological balance is maintained. The AO will select the alternative that best allows the BLM to meet the purpose and need for the action.

The Field Manager is the AO, and will decide one of the following:

- To approve specific types of gather methods and design features to gather and remove excess wild horses that reside outside of the PEDHMA;
- To analyze the effects of gather and removal operations in an EIS; or
- To deny wild horse gather and removal operations outside of the PEDHMA.

1.5. Conformance with the Land Use Plan

The Proposed Action is subject to and in conformance with the following plan (43 CFR 1610.5-3(a), BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (WRRMP).

Date Approved: July 1, 1997

Decision Number/Page: Objective: “Manage for a wild horse herd ... [135-235 animals] on 190,130 acres within the Piceance-East Douglas Herd Management Area (HMA) so

that a thriving ecological balance is maintained for all plant and animal species on that range.” (page 2-26)

Management: “The North Piceance and West Douglas Herd Areas will be managed in the short-term (0-10 years) to provide forage for a herd of 0 – 50 wild horses in each herd area. The long term objective (+10 years) will be to remove all wild horses from these areas.” (page 2-26)

“The boundary of the Piceance-East Douglas HMA will be expanded to include the Greasewood allotment (presently a part of the North Piceance Herd Area).” (page 2-26)

1.6. Relationship to Laws, Regulations, and Other Plans

The Wild Free-Roaming Horses and Burros Act of 1971, as amended, provides:

16 U.S.C. 1332 (f)

“excess animals” means wild free-roaming horses or burros (1) which have been removed from an area by the Secretary pursuant to applicable law or, (2) which must be removed from an area in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area.

16 U.S.C. 1333 (a)

The Secretary shall manage wild free-roaming horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands.

To achieve a thriving natural ecological balance (TNEB) on the public lands, wild horses and burros (WH&B) should be managed in a manner that assures significant progress is made toward achieving the Land Health Standards for upland vegetation and riparian plant communities, watershed function, and habitat quality for animal populations, as well as other site-specific or landscape-level objectives, including those necessary to protect and manage threatened, endangered, and sensitive species. WH&B herd health is promoted by achieving and maintaining a TNEB.

However, Bureau of Land Management wild horse and burro program goals have expanded beyond simply establishing and maintaining a TNEB (i.e., establishing AML for individual herds), to include achieving/maintaining population size within the established AML as well as managing for healthy, self-sustaining wild horse population. The focus of wild horse management has also expanded to place emphasis on achieving rangeland health as measured through the Standards for Rangeland Health.

1333 (b)(2)

Where the Secretary determines on the basis of (i) the current inventory of lands within his jurisdiction; (ii) information contained in any land use planning completed pursuant to section 202 of the Federal Land Policy and Management Act of 1976; (iii) information contained in court ordered environmental impact statements as defined in section 2[3] of the Public Range Lands Improvement Act of 1978; and (iv) such additional information as becomes available to him from time to time, including that information developed in the research study mandated by this section, or in the absence of the information contained in (i-iv) above on the basis of all information currently available to him, that an overpopulation exists on a given area of the public lands and that action is necessary to remove excess animals, he shall immediately remove excess animals from the range so as to achieve appropriate management levels.

The Federal Land Policy and Management Act of 1976 (FLPMA) requires that an action under consideration be in conformance with the applicable BLM land use plan, and be consistent with other federal, state, and local laws and policies to the maximum extent possible.

Title 43 Part 4700 of the Code of Federal Regulations (CFR) provides:

Subpart 4710 – Management Considerations

Sec. 4710.1: Land use planning.

Management activities affecting wild horses and burros, including the establishment of herd management areas, shall be in accordance with approved land use plans prepared pursuant to part 1600 of this title.

Sec. 4710.4: Constraints on management.

Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. Management shall be at the minimum level necessary to attain the objectives identified in approved land use plans and herd management area plans.

Subpart 4720 - Removal

Sec. 4720.1: Removal of excess animals from public lands.

Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately in the following order.

(a) Old, sick, or lame animals shall be destroyed in accordance with subpart 4730 of this title;

(b) Additional excess animals for which an adoption demand by qualified individuals exists shall be humanely captured and made available for private maintenance in accordance with subpart 4750 of this title; and

(c) Remaining excess animals for which no adoption demand by qualified individuals exists shall be destroyed in accordance with subpart 4730 of this title.¹

Sec. 4720.2: Removal of strayed or excess animals from private lands (see also 16 U.S.C. 1334)

Sec. 4720.2-1: Removal of strayed animals from private lands.

Upon written request from the private landowner to any representative of the Bureau of Land Management, the authorized officer shall remove stray wild horses and burros from private lands as soon as practicable. The private landowner may also submit the written request to a Federal marshal, who shall notify the authorized officer. The request shall indicate the numbers of wild horses or burros, the date(s) the animals were on the land, legal description of the private land, and any special conditions that should be considered in the gathering plan.

Sec. 4720.2-2: Removal of excess animals from private lands.

If the authorized officer determines that proper management requires the removal of wild horses and burros from areas that include private lands, the authorized officer shall obtain the written consent of the private owner before entering such lands. Flying aircraft over lands does not constitute entry.

BLM Manual 4720 - Removal

Sec. 4720.1-12: Excess Animals.

Excess animals are defined as those animals which must be removed from an area to preserve and maintain a thriving natural ecological balance (TNEB) and multiple-use relationship in that area. This definition includes wild horses or burros located outside the HMA in areas not designated for their long-term maintenance.

BLM Standards for Public Land Health in Colorado

In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. The BLM applies standards on a landscape scale and related to the potential of the landscape.

¹ Note that the BLM's ability to implement subsection c has been previously prohibited by Congress through appropriations riders.

2. PUBLIC INVOLVEMENT

2.1. Scoping

According to the BLM NEPA Handbook, "... scoping is the process by which the BLM solicits internal and external input on issues, impacts, and alternatives" and is considered a form of public involvement in the NEPA process (Section 6.3). Scoping is both an internal and external process. Internal scoping was initiated when the project was presented to the WRFO interdisciplinary team on March 28, 2017.

While external scoping for EAs is not required (40 CFR 1501.7; 43 CFR 46.305(a)), CEQ regulations direct agencies to encourage and facilitate public involvement in the NEPA process to the fullest extent possible (40 CFR 1500.2(d), 40 CFR 1506.6), and DOI regulations (43 CFR 46.305(a)) and the BLM's NEPA Handbook gives the Authorized Officer the discretion to conduct external scoping for EAs.

This project was posted on the BLM's online NEPA register (ePlanning) on April 6, 2017. In this case, additional outreach for external scoping was not conducted since the proposed gather and removal of excess wild horses outside of the PEDHMA was expected to have similar issues to those previously raised by the public during consideration of gathers and removals of excess wild horses within the PEDHMA (e.g., CO-110-2006-030-EA, DOI-BLM-CO-110-2010-0089-EA, DOI-BLM-CO-110-2011-0058-EA, and DOI-BLM-CO-N05-2015-0024-DNA).

2.2. Public Comment

On June 5, 2017 the WRFO made the preliminary environmental assessment and unsigned finding of no significant impact (FONSI) available for public review and comment on the BLM's NEPA register (ePlanning), with a comment due date of July 5, 2017. The public was notified by a press release and the WRFO also sent letters to approximately 100 individuals and groups announcing the availability of the document.

3. PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and alternatives, including any that were considered but eliminated from detailed analysis. The BLM has developed three alternatives which will be considered in detail:

- Alternative A – Proposed Action - Use all approved gather methods
- Alternative B – Exclusive use of bait and/or water trapping
- Alternative C – No Action Alternative.

All gather operations will be conducted according to Washington Office Instruction Memorandum (WOIM) #2015-151 which establishes policy for the Wild Horse and Burro (WH&B) gather component of the Comprehensive Animal Welfare Program (CAWP). It defines standards, training and monitoring for conducting safe, efficient and successful WH&B gather operations while ensuring humane care and handling of animals gathered. BLM Instruction Memoranda related to management of wild horses can be found online at: <https://www.blm.gov/learn/blm-library/subject-guides/wild-horse-and-burro-subject-guide/wild-horse-and-burro-subject-guide-policy-and-legal-resources>. The gather and removal of excess wild horses would be completed by a BLM Wild Horse and Burro (WH&B) National Program Contractor and/or BLM personnel.

3.1.1. Short-term or Long-term Holding Facilities

Excess wild horses that would be gathered and removed from outside the PEDHMA would be transported to either short-term and/or long-term holding facilities. All wild horse gathers and removals are subject to funding approval and further based on space availability of short-term and/or long-term holding facilities. The gather and removal of excess wild horses that have relocated outside of the PEDHMA would be conducted over a period of several years using a variety of gather techniques including helicopter drive trapping, helicopter assisted roping, or bait and water trapping once the BLM's National Wild Horse and Burro Program office has determined space is available and the WRFO received such approval.

3.2. Alternative A (Proposed Action): Use All Approved Gather Methods

Under Alternative A (Proposed Action), the BLM would use all approved gather methods (either individually or in various combinations) to remove excess wild horses from areas outside of the PEDHMA; west of Highway 13, south of Highway 64, east of Highway 139 and north of the WRFO boundary (**Appendix A** - Map 1). Gather and removal operations would be recurring as funding and space in short-term and/or long-term holding allow until the excess wild horses are gathered and removed from areas outside of the PEDHMA.

3.2.1. Gather Methods

The types of approved gather methods include:

1. **Helicopter drive-trapping:** involves using a helicopter to spot and then herd wild horses towards a pre-constructed trap. Traps would be pre-constructed utilizing portable, round-pipe steel panels with funnel-shaped wings made up of jute fabric affixed to T-posts that have been temporarily tamped into the ground to create a visual barrier so that as the wild horses are hazed by the helicopter towards the trap through the "wings" or funnel so that the wild horses ultimately end up in the trap where people on-the-ground shut a gate behind them in order to catch them in the trap. In general, most traps would be 1 – 5 acres in size. Trap locations would be situated in areas where previously used trap sites were located or other

disturbed areas whenever possible. Trap locations would be chosen for safety of maneuvering the wild horses into the trap, as well as, to gather the wild horses located in a given area. Helicopter drive-trapping would not be conducted between the dates of March 1 and June 30 which are considered to be the peak foaling period (WOIM #2010-183). The BLM Wild Horse and Burro Handbook, H-4700-1, Section 4.4.4 prohibits the capture of wild horses by helicopter during peak foaling periods.

2. Helicopter assisted roping: includes herding by helicopter towards ropers who rope the wild horse(s). Once roped, another rider rides alongside the roped wild horse and roper, helping to haze, or herd, the roped wild horse either towards the trap or towards a stock trailer. Once at the trap the rope is flipped away from the roped wild horse's neck and it joins the rest of the trapped wild horses. No helicopter assisted roping would be conducted between the dates of March 1 and June 30 due to the BLM's policy which prohibits the capture of wild horses by helicopter during peak foaling periods.
3. Water trapping: utilizes a trap constructed of portable, round-pipe steel panels. Funnel-shaped traps are built allowing wild horses to get deep into the trap so that the gate release mechanism has time to close. Water traps are located at a specific water source. Water trapping may be conducted at any time of year.
4. Bait trapping: utilizes a trap constructed of portable, round-pipe steel panels. Funnel-shaped traps would be built which allow wild horses to get deep into the trap so that the gate release mechanism has time to close. Bait traps would be located in areas frequented by wild horses so that the horses make use of the provided forage (quality, weed free hay). Bait trapping may be conducted at any time of year.

3.2.2. Design Features for Helicopter Gathers

1. Avoid, if possible, helicopter gather operations from late-August through November for high public use areas during big game hunting seasons.
2. Colorado Parks and Wildlife (CPW) staff would be contacted to coordinate gather operations in an effort to develop mutually compatible strategies that may reduce the intensity and localize the expanse of helicopter related disturbances during big game hunting seasons.
3. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates and applicable regulations of the State in which the gather is located.
4. Aviation fueling operations would be conducted a minimum of 1,000 feet from wild horses in traps or temporary holding facilities.

5. All refueling would occur on existing roads or a site approved by the BLM as a helicopter staging area. All approved staging areas would be a minimum of 200 feet from any riparian area or stream channel. The operator would utilize absorbent pads while refueling to limit the potential of fuel spills. In the event of a spill of lubricant, hydraulic fluids, fuels, or other hydrocarbons, the spill would be reported to the BLM's Contracting Officer Representative (COR) or Project Inspector (PI) so that BLM can immediately conduct evaluations of any necessary clean-up actions, as well as perform such actions to ensure compliance with applicable laws, rules, and regulations.
6. If possible, the BLM would avoid helicopter gather operations from December through February to reduce/eliminate impacts to big game during the critical winter period.
7. If possible, the BLM would avoid helicopter gather operations from July 1 through August 15 to reduce/eliminate impacts to nesting raptors and migratory birds.

3.2.3. Fiscal Year 2017

For Fiscal Year (FY) 2017, the BLM's National Wild Horse and Burro Program has determined there is space available in short-term and/or long-term holding facilities for excess wild horses which may be removed from Colorado.

Gather and removal operations, under Alternative A, if approved, would be tentatively scheduled in fall of 2017 (potentially in September for approximately 7 days) with an anticipated gather and removal of 72 excess wild. Several factors such as animal health, weather conditions, or other considerations could result in adjustments in the schedule. For the FY 2017 gather/removal operation proposed under Alternative A, the WRFO anticipates using helicopter drive-trapping and helicopter assisted roping, and not bait or water trapping methods.

3.3. Alternative B: Exclusive Use of Bait and/or Water Trapping

Exclusive use of bait and/or water trapping uses a trap constructed of portable, round-pipe steel panels. Funnel-shaped traps would be built, allowing wild horses to get deep into the trap so that the gate release mechanism has time to get the gate closed. Water traps would be located at a specific water source. Bait traps would be located in areas frequented by wild horses so that the wild horses would make use of the forage that is provided as bait. Water and/or bait trapping may be conducted at any time during the year. The exact locations of such bait and/or water trapping have not been determined at this time but these locations would be selected based on current wild horse use of an area and/or a given water source. Gather and removal operations would be recurring as funding and space in short-term and/or long-term holding allow until the excess wild horses are gathered and removed from areas outside of the PEDHMA.

3.3.1. Fiscal Year 2017

Gather and removal operations under Alternative B, if approved, would be tentatively scheduled in fall of 2017 (potentially starting in September for approximately 60 days) with an anticipated gather and removal of 72 excess wild horses.

3.4. Design Features Common to both Gather Alternatives (Alternatives A and B)

Animal Welfare:

1. A veterinarian from the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) would be at the gather operation to examine animals and make recommendations to the BLM for care and treatment of the gathered wild horses. Decisions to humanely euthanize animals in field situations would be made in conformance with BLMs 4730 Manual and WOIM #2015-070.
2. Contractors and/or BLM staff would utilize trailers to transport gathered wild horses to a temporary holding facility where they would receive appropriate food and water. Holding facilities and gather sites have historically been located on both public and private lands due to road access and availability of water and may be located on such lands again during proposed gather operations.
3. Wild horses that are removed from the area would most likely be transported to the Canon City, Colorado BLM holding facility where they would be prepared (freeze-marked, vaccinated, and de-wormed) for adoption, sale (with limitations), or long-term holding unless unforeseen circumstances warranted that the wild horses be transported to a different approved BLM holding facility (i.e. at Rock Springs, Wyoming).
4. There is no proposal to hold a wild horse adoption at the temporary holding facility upon completion of a gather operation because of current market conditions. However, if determined that an adoption is warranted, the BLM may hold an adoption offering approximately 10 wild horses with a date to be decided upon and advertised.

Communication:

5. The WRFO would utilize the Incident Command System (ICS) to enable safe, efficient, and successful wild horse gather and removal operations in accordance with WOIM #2013-060.
6. The BLM would provide the public/media with safe and transparent visitation at wild horse gather operation in accordance with WOIM #2013-058. The BLM would conduct gather operations while ensuring the humane treatment of wild horses in accordance with WOIM #2015-151. A schedule would be prepared and posted on the WRFO's website

(<http://www.blm.gov/co/st/en/fo/wrfo.html>) that would outline specific viewing opportunities and other relevant information. The BLM would provide concise, accurate and timely information about gather operations with communication and reporting during the course of an ongoing wild horse gather in accordance with WOIM #2013-061.

7. Any discovery of hazardous or potentially hazardous materials would be reported to the BLM hazardous materials coordinator and Law Enforcement for investigation.
8. Prior to commencement of gathering operations, the BLM would notify existing right-of-way holders, range permittees, operators, and lessees of any location, date, and time associated with the gather operation that may affect their permitted activities.
9. If gather operations are conducted during any of the CPW big game seasons, Special Recreation Permit holders authorized to operate in the analysis area for commercial big game guiding and outfitting would be notified of the gather activities and locations in advance.
10. The BLM is responsible for informing all persons who are associated with the project that they would be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.
11. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery would cease, and the WRFO Archaeologist would be notified immediately. Work may not resume at that location until approved by the AO. The BLM would make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, the BLM would evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The BLM would implement the mitigation in a timely manner. The process would be fully documented in reports, site forms, maps, drawings, and photographs. The BLM would forward documentation to the SHPO for review and concurrence.
12. Pursuant to 43 CFR 10.4(g), the BLM would immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.
13. The BLM would be responsible for informing all persons who are associated with gather operations that they would be subject to prosecution for disturbing or collecting vertebrate or other scientifically-important fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.

Weed Management and Reclamation:

14. Any hay fed at trap sites or holding facilities, on public lands, would be certified as weed free. Any noxious weeds that establish as a result of the proposed action would be controlled by the BLM. All of the trap locations would be monitored for up to three years for weed species infestation following gather operations. If weeds were discovered, the BLM would treat these locations following procedures outlined in the WRFO's Integrated Weed Management Plan (DOI-BLM-CO-110-2010-0005-EA). It is estimated that the total acreage affected would be less than 50 acres.
15. All of the trap locations would be monitored for up to three years for vegetation recovery. If problems with vegetation establishment are discovered, BLM would treat these locations based on the aid in vegetation recovery that may be necessary, i.e. broadcast seeding, at the trap locations. It is estimated that approximately 50 acres would be affected for what would be considered the life of the gather and removal efforts.
16. All equipment used for gather operations shall be cleaned before it comes to WRFO and when it leaves WRFO to minimize the potential spread of noxious and/or invasive weed species.
17. Equipment shall be cleaned when moving between locations within the analysis area if noxious weeds are encountered and if there is any potential for weed seeds to be carried between locations.

Restrictions on Trap Locations:

18. The BLM would not construct trap locations or temporary holding facilities within 300 meters of known occupied habitat for listed plant species. If trap sites are anticipated in potential or suitable habitat that have not been previously disturbed, 24 hours of notification would be required and a pre-survey for special status plant species would be conducted prior to mobilization of vehicles and equipment by a BLM plant specialist. If BLM Sensitive plant species or federally listed plant species are located, another site would be selected at a distance greater at least 300 meters from the edge of the population or occurrence and pre-surveyed similarly, as necessary.
19. Traps and temporary holding facilities location would be located in previously used trap sites or on an area of existing disturbance, such as road or a wash. If an existing disturbed area cannot be located for traps and temporary holding facilities, a cultural resource inventory would take place prior to the gather if there is inadequate inventory data available. If cultural resources are located during this inventory, the trap site or temporary holding facility would be moved to another location, which does not contain cultural resources.

20. No traps or holding facilities would be located at or impede the use of the developed recreation sites in Canyon Pintado National Historic District.
21. Known and reported fossil localities would be avoided when locating trap sites and associated wing fences and holding facilities. Sites without adequate inventory data would need to be examined for the presence of fossils during trap site selection activities. Trap facilities would be relocated or modified to avoid impacting identified fossil resources.
22. Surveys of suitable raptor nesting habitat would be conducted by WRFO staff at those trap sites proposed for use or development from April 15 to August 15. In the event an active raptor nest is found in the vicinity of trapping operations, these sites would be afforded a buffer adequate to effectively isolate nesting activity from disruptions generated by wild horse trapping operations as required in the 1997 White River RMP.
23. Those sites proposed for water trapping would be surveyed by WRFO wildlife staff prior to use to determine if sites are occupied by aquatic amphibian species. If trapping efforts are found to impact individuals or habitat, the trap site would be relocated.
24. Any traps placed within an ACEC would be limited to areas of existing disturbance and would be placed in a manner that it would not impact resources for which the ACEC has been designated. Until the BLM makes a decision (through a land use planning process) on whether or not to designate the two potential ACECs within the gather area, the BLM would place traps in the same manner as within the designated ACECs.

Minimizing Erosion:

25. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO.
26. Any trap sites located on greater than 35 percent slope would be evaluated in the field by WRFO hydrology staff prior to identifying any necessary mitigation in order to ensure that use of the site would still allow for meeting Public Land Health Standard 1 (e.g., minimizing overland surface erosion and subsequent rill and/or gully formation). Example of mitigation may include: placement of waddels.

3.5. Alternative C: No Action Alternative

Under Alternative C, excess wild horses would not be gathered or removed from areas located outside of the PEDHMA.

3.6. Alternatives Considered but Eliminated from Detailed Analysis

- A. Other alternative capture techniques:** The BLM has identified net gunning, chemical immobilization, and wrangler/horseback drive trapping as other capture techniques for gathering wild horses.

Generally, net gunning techniques normally used to capture animals also rely on helicopters. The BLM has not approved this technique for the use in gathering of wild horses.

Chemical immobilization is a very specialized technique and strictly regulated. Currently, the BLM does not have sufficient expertise to implement this method and it would be impractical to use given the area, varied topographic, terrain features, and the large areas of dense over story of pinyon/juniper trees, any potential access limitations, along with the approachability of the wild horses located outside of the PEDHMA.

Use of wrangler on horseback drive-trapping as the only gather method to remove excess wild horses can be fairly effective on a small scale or for the gathering of individual wild horses but due to the number of excess wild horses to be gathered, the large geographic size outside of the PEDHMA, rough terrain, and approachability of the wild horses in this area, this technique would be ineffective and impractical to meet the purpose and need. Horseback drive-trapping is also very labor intensive and can be harmful to the domestic horses and wranglers during the gather operations.

For the reasons listed above, these alternative gather methods were eliminated from further consideration.

- B. Capture excess wild horses located outside of the PEDHMA using all available approved gather methods and then return them to the PEDHMA:** The BLM is not considering returning any of the gathered wild horses back into the PEDHMA since the PEDHMA is currently over the Appropriate Management Level (AML). The number of wild horses estimated in the PEDHMA is over double the AML which is between 135-235 wild horses. The BLM estimates the current population of wild horses within the PEDHMA to be a conservative 454 wild horses as of 2017 (including foals).

4. ISSUES

The CEQ Regulations state that NEPA documents "... must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated

with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. The following sections list the resources considered and the determination as to whether they require additional analysis.

4.1. Issues Analyzed

The following issues were identified during internal scoping as potential issues of concern for the Proposed Action. These issues will be addressed in this EA.

- **Aquatic Wildlife**: Helicopter gather and roping operations as well as bait and water trapping have the potential to impact aquatic communities.
- **Vegetation**: Vegetation would be disturbed at trap sites and holding facilities due to trampling by wild horses and increased vehicle and foot traffic.
- **Invasive, Non-Native Species**: Gather methods have the potential to impact the area with the introduction of or increase in invasive, non-native plant species.
- **Migratory Birds**: If trapping efforts occur during the nesting season (May – July), there may be potential for temporary displacement/disruption due to high levels of disturbance, particularly if nest sites are in close proximity to concentrated activity.
- **Terrestrial Wildlife**: Gather operations have the potential to temporarily displace big game within 0.5 to 1 mile of activity. Depending on the time of year, gather-related activity could result in prolonged nest absences for raptors if not mitigated.
- **Special Status Animal Species**: Helicopter gather and roping operations as well as bait and water trapping have the potential to impact special status animal species and habitats that provide forage and cover resources during critical timeframes.
- **Special Status Plant Species**: Gather operations have the potential impact special status plants as a result of trailing and trampling from horses, or from routine gather operations such as trap set-up and take-down, increased foot traffic, and herding of horses to the trap location.
- **Cultural Resources**: Direct impacts to cultural resources will be reduced by placing traps and temporary holding facilities in previously used trap sites or on an area of existing disturbance when possible. If an existing disturbed area cannot be located for traps and temporary holding facilities, a cultural resource inventory will take place prior to the gather operation. However, the Proposed Action can still directly and indirectly adversely affect cultural resources.
- **Paleontological Resources**: The Proposed Action can impact exposed fossils, suspected fossil localities, and exposed outcrops of stone.

- **Lands with Wilderness Characteristics:** There are six lands with wilderness characteristics units that have been identified as having wilderness characteristics within the proposed analysis area (refer to Map 2). There is potential for the proposed activities associated with the various alternatives to impact wilderness characteristics in these units.
- **Livestock Grazing:** Livestock located near gather activities would be temporarily disturbed or displaced by helicopter activity and the increased vehicle traffic during gather operations.
- **Wild Horses:** Wild horses may experience stress, injury, social disruption, or even, rarely, mortality as a result of gather and removal operations.
- **Recreation:** There is potential for the activities proposed in the various alternatives to impact the desired experiences of big game hunters and other recreationalists during gather operations.

4.2. Issues Considered but Not Analyzed

- **Air Quality:** The analysis area is located in rural northwest Colorado in the White River Basin. Industrial facilities in the White River Basin include coal mines, soda ash mines, natural gas processing plants, and power plants. Due to these industrial uses, increased population and oil and gas development in this region, emissions of air pollutants in the White River Basin due to exhaust emissions and dust (particulate matter) occur. Overall air quality conditions in the White River Basin are generally good due to effective atmospheric dispersion conditions and limited transport of air pollutants from outside the area. The WRFO has been classified as either attainment or unclassified for all air pollutants, and most of the area has been designated for the prevention of significant deterioration (PSD) class II for Dinosaur National Monument. Regional air quality parameters including dust are being measured on a continuous basis at monitoring sites located at Meeker, Rangely, Dinosaur, and near the Flat Tops Wilderness Area. Impacts to air quality, specifically generation of fugitive dust, could occur from either proposed gather operations or from increased wild horse grazing and trailing. However, these impacts would be relatively minor, localized, and temporary and a detailed analysis of such impacts is not necessary to inform the BLM's selection of an alternative.
- **Wetlands and Riparian Zones:** Wetland and riparian zones are unlikely to be impacted by helicopter drive trapping operations. If water sources which support wetland or riparian zones are chosen for water trapping operations, these operations are not likely to increase the amount of use these areas receive under natural conditions. As the trap sites are continuously monitored while actively in use there would not be an opportunity for increased or prolonged congregation within these areas from the present situation during gather operations.
- **Geology and Minerals:** Gathering and removing wild horses would have little to no impacts on the geologic and mineral resources. The Design Feature requiring the

notification of the affected mineral operators would allow the operators to schedule maintenance and production operations to prevent conflict of activities in the analysis area.

- **Native American Religious Concerns:** No Native American religious concerns are known in the area, and none have been noted by tribal authorities. Should recommended inventories or future consultations with Tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures may be undertaken.
- **Fire Management:** The Proposed Action would not affect the Northwest Colorado Fire Management Unit Plan.
- **Social and Economic Conditions:** There would not be any substantial changes to local social or economic conditions.
- **Environmental Justice:** According to the most recent Census Bureau statistics (2010) and guidelines provided in WOIM #2002-164, there are no minority or low income populations within the WRFO.
- **Prime and Unique Farmlands:** There are no prime and unique farmlands within the analysis area.
- **Soil Resources:** Soils with landslide potential and/or located on slopes greater than 35 percent within the analysis area have been mapped and broken down by USGS 24,000 scale maps (and are available for reference in the WRFO) to provide a reference during the proposed gather operations. Any trap sites located on these slopes would be evaluated in the field to identify any necessary mitigation to ensure that use of the site would meet Public Land Health Standard 1 (e.g., minimizing overland surface erosion and subsequent rill and/or gully formation.). Example of mitigation may include: placement of waddels.
- **Surface and Ground Water Quality:** The gathering and removal of wild horses utilizing traps and temporary holding facilities would not result in impacts to surface or groundwater quality. If traps are located near surface and/or groundwater expressions (springs), resource impacts would be temporary and are not expected to exceed current impacts from wild horse usage.
- **Floodplains, Hydrology, and Water Rights:** Based on U.S. Army Corps of Engineers (USACE) 2007 data, several delineated floodplains exist within the analysis area (and are available for reference in the WRFO). The gathering and removal of wild horses utilizing traps and temporary holding facilities would not impact delineated floodplains or stream channel hydrology beyond current impacts from wild horse usage. Water rights: Given the temporary nature of the Proposed Action and Alternatives, no long-term impacts to designated beneficial uses of water rights located within the analysis area are foreseen.

- **Realty Authorizations**: Gathering and removing wild horses would have little to no impacts on Realty Authorizations. The Design Feature requiring the notification of the affected holders would allow the operators to schedule maintenance and production operations to prevent conflict of activities in analysis areas.
- **Visual Resources**: Due to the temporary nature of all proposed activities associated with all of the alternatives, there would be no long-term impacts or changes to the existing character of the landscape as a result of implementing any of the alternatives.
- **Wilderness Study Areas**: No Wilderness Study Areas (WSA) are located within the proposed analysis area. There is no potential for the proposed activities to impact managing WSAs.
- **Access and Transportation**: There would be no changes to public access or the BLM travel and transportation system as a result of implementing any of the proposed alternatives. It is unlikely that any existing routes would change in character or that new vehicle routes would be created as a result of implementing any of the proposed alternatives. Access to and from the trap sites and/or holding facilities by BLM employees, contractors, the public, and others associated with the proposed activities is likely to result in an inconsequential and temporary increase in traffic volume on routes used for this project.
- **Wild and Scenic Rivers**: There are no Wild and Scenic Rivers within the WRFO.
- **Scenic Byways**: No Scenic Byways are located within the proposed analysis area. There is no potential for the proposed activities to impact managing Scenic Byways.
- **Areas of Critical Environmental Concern (ACEC)**: The proposed gather area intersects 10 ACECs and two potential ACECs. These ACECs and potential ACECs have been identified for special status plants, paleontological values, remnant vegetation associations (RVAs), biologically diverse plant communities, riparian habitat, Colorado River cutthroat habitat, and trout fisheries. Impacts to these values are analyzed in each individual resource section in this EA. Based on the design features the BLM has committed to, impacts to resources within the ACECs and potential ACECs are expected to be nominal and do not require further detailed analysis.
- **Forestry and Woodland Products**: There would be no impacts to forestry and woodland products as a result of the proposed action or any of the alternatives.
- **Hazardous or Solid Wastes**: There are no anticipated impacts that would result from materials that would be used, stored, transported, or disposed of in association with the proposed action or any of the alternatives. Use, storage, transportation, and disposal of small amounts of chemical and solid waste potentially used would be in accordance with the BLMs policy and guidelines, and other federal, state, and local laws.

5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.1. General Setting & Access to the Analysis Area

Generally, the analysis area is characterized as a plateau geographic type with numerous washes and draws that can run long and deep. Elevations range from 5,600 feet near the White River drainage to 8,500 feet near the Cathedral Bluffs area. Precipitation ranges from 10 inches at the lower elevations and 20 inches at the higher elevations. Vegetation is highly varied as a result of topography and precipitation. At the lower elevations are greasewood bottoms, the mid-elevations are pinyon/juniper woodlands and sagebrush parks, and the upper elevations are made up of mountain shrub and Douglas-fir communities. There are some natural waters (springs, seeps, creeks) and some supplemental water provided by stock ponds which are scattered throughout the area. Several vegetation treatment areas outside of the PEDHMA provide open space and forage. Several fences existing in various locations, common to livestock management and along highway rights-of-way. All fences would be considered when gathering wild horses.

Various county roads are available to access the area including but not limited to the following: Rio Blanco County Road (RBC) 122 (Calamity Ridge), RBC Road 68 (Dry Ryan), RBC Road 69 (Hunter Ridge), Portions of RBC Road 103 (Cathedral Ridge), RBC Road 76 (Greasewood), RBC Road 3 (Collins Gulch), RBC Road 26 (Black Sulphur), and portions of RBC Road 24 (Ryan Gulch). Additional access is available off of several numbered or unnumbered BLM roads, as well as other private or energy related roads. A majority of the roads may pose potential travel issues after a moderate rain event.

5.2. Assumptions for Analysis

Assumed Timeframes Necessary to Gather Excess Wild Horses

The BLM anticipates that gathering all of the excess wild horses in any one year period, regardless of the gather methods used, may not be attainable due to terrain, pinyon-juniper cover, potential for storm conditions affecting ability to travel in the area, budget, available holding capacity for wild horses, and the historic gather success rates known to the area.

The BLM anticipates that based on the history of difficult gather operations for this area that more than one trap location would be required no matter the gather method and that the number of days at any given trap location could vary widely. The BLM anticipates that trap sites used for helicopter drive trapping would typically be active for 1 to 3 days during a gather operation, where bait/water trap sites may be active for extended periods in order to gather the same number of wild horses as the helicopter drive trap method.

Variables such as weather delays, availability of short-term and long-term holding spaces, difficulties in gathering the excess wild horses including wild horse behavior, availability of gather contractors, and budget could adjust the time period needed to complete gather operations.

Trap Locations

Due to the need to be able to access gathered wild horses at trap locations with trucks and trailers, it is assumed that the majority of trap locations (whether using helicopters, water, or bait) would be located near existing disturbances and/or roads.

However, there may be rare occurrences when this is not the case. For example, in the past the BLM has used helicopters to deliver panels to trap sites not accessible by vehicles and then ponied out the gathered horses (i.e., the wild horse is led to another trap next to a road by following a lead domestic horse and with a second domestic horse following behind the wild horse). In the last 10 years, the BLM has only used this approach once and there were no injuries or any anticipated increase in risk of injury.

Acreage

It is estimated that the total acreage affected would be approximately 50 acres and includes utilization of previously disturbed locations for gather operation.

Impacts Due to Changes in the Wild Horse Population and/or Distribution

The analysis in this EA focuses on the impacts associated with proposed gather operations (e.g., use of helicopters, bait or water traps, temporary corrals, etc.). It is anticipated that under each of the alternatives there would be a change in the wild horse population that has relocated outside of the PEDHMA. The number of wild horses that have relocated outside of the PEDHMA has increased and conditions have varied over the years.

For Fiscal Year 2017, the National Program Office estimates that they would only be able to provide space in short-term or long-term holding facilities for up to 72 excess wild horses from the WRFO. For Alternatives A and B, if we assumed a similar number of excess wild horses could be accommodated each fiscal year in holding facilities, then it would take approximately 4 years (2017 – 2020) to gather and remove excess wild horses from areas located outside of the PEDHMA with a 100 percent success rate for each gather operation.

Table 1. For Alternatives A & B the Minimum Number of Years Required in order to Gather Excess Wild Horses from Areas Outside of the PEDHMA

Year	Estimated Wild Horse Population at the Start of the Year	Annual Recruitment	Estimate Excess Wild Horse Population at Time of Gather	Excess Wild Horses Removed via Gathers	Remaining Wild Horses
2016	145	29	0	0	174
2017	174	35	210	72	137
2018	137	27	164	72	92
2102019	92	18	110	72	38
2019	38	8	46	46	0

5.3. Cumulative Impacts

5.3.1. Cumulative Impacts Analysis Areas

The geographic extent (Cumulative Impact Analysis Area or CIAA) and the timeframe (or temporal boundary) of cumulative impacts are listed below in Table 2

Table 2. Cumulative Impacts Analysis Area by Resource (Cumulative Impacts)

Resource	CIAA	Total CIAA Acreage	Temporal Boundary
Wild Horses	Outside of PEDHMA areas subject to gather and removal operations.	Approximately 773,213 acres (517,288 acres of public, 18,193 acres of state, and 237,732 acres of private).	Impacts to wild horses from this action would be irreversible and irretrievable if all wild horses that are gathered are removed.
Cultural & Paleontology	Outside of PEDHMA areas subject to gather and removal operations.	Approximately 773,213 acres (517,288 acres of public, 18,193 acres of state, and 237,732 acres of private).	Impacts to the regional cultural & paleontological resources from this action would be irreversible and irretrievable and result in an ongoing cumulative loss of data.
Livestock Grazing, Special Status Plant Species, Vegetation, Invasive Species, Recreation, Lands with Wilderness Characteristics, Aquatic Wildlife, Migratory Birds, Terrestrial Wildlife, and Special Status Animal Species	Outside of PEDHMA areas subject to gather and removal operations.	Approximately 773,213 acres (517,288 acres of public, 18,193 acres of state, and 237,732 acres of private).	During wild horse gather operations and through implementation and establishment of final succession post-reclamation vegetation.

5.3.2. Past, Present, and Reasonably Foreseeable Future Actions

Cumulative effects are defined in the CEQ regulations (40 CFR 1508.7) as “... the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”

Other past, present, and reasonably foreseeable actions in the analysis area include: grazing by livestock, wild horses and wildlife; and construction and/or maintenance associated with range improvement projects; energy development and/or maintenance of energy related facilities,

vegetation treatments; and both wildfires managed for resource benefit and prescribed fires. Generally, recreation use is characterized by dispersed camping, off road vehicle use, wild horse and wildlife viewing, as well as big game hunting activities.

As of May 2017, the Colorado Oil and Gas Conservation Commission database indicated there were a total of 1,163 producing wells, and 114 shut-in wells in the identified area of the proposed gather and removal operation. Most energy development was conducted decades ago but still requires regular maintenance activities of those facilities using the area.

5.4. Wild Horses

5.4.1. Affected Environment

Population Estimates and Geographic Distribution

In February 2016, the BLM (2 observers and the pilot)² conducted a direct count inventory by helicopter of the wild horses west of State Highway 139 and within the PEDHMA along with a portion outside of the PEDHMA known as Cathedral/Lake/Soldier Creeks which indicated an estimated population of 44 wild horses plus 1 domestic horse. It can be difficult to count wild horses due to the dense coniferous (pinyon/juniper) canopy cover located across portions of the analysis area.

The 2016 estimated population of the wild horses outside of the PEDHMA is generated from the previous inventories and reporting by the public, along with the 2016 helicopter inventory for the Cathedral/Lake/Soldier Creeks area and includes annual foaling recruitment rates of 20 percent for 2016 (Table 3). The current estimated population for those areas can be found in Table 4; at the time of the proposed gather there could be approximately 210 wild horses in the analysis area.

Table 3. Estimated Wild Horse Population for 2016

Location Outside of PEDHMA	2016 Estimated Population	+ 2016 20% Recruitment	Estimated Population as of 12/31/2016	Unallocated Forage Utilization by AUMs
Magnolia Bench	8	1	9	108
North Piceance Herd Area	35	8	43	516
Doughnut Hole	8	1	9	108
Pastures A & B, Ryan Gulch	50	10	60	720
Cathedral/Lake/Soldier Creeks	44	9	53	636
2016 Total	145	29	174	2,088

² A copy of the 2016 inventory report is available online on the project website (<http://bit.ly/2qhnKFo>).

Table 4. Estimated Wild Horse Population for 2017

Location Outside of PEDHMA	12/31/2016 Estimated Population	+ 2017 20% Recruitment	July 31, 2017 Estimated Population	Unallocated Forage Utilization by AUMs
Magnolia Bench	9	2	11	132
North Piceance Herd Area	43	9	52	624
Doughnut Hole	9	2	11	132
Pastures A & B, Ryan Gulch	60	12	72	864
Cathedral/Lake/Soldier Creeks	53	11	64	768
2017 Total	174	36	210	2,520

Most wild horses found outside of the PEDHMA are found in the areas adjacent to the PEDHMA boundary except for the area locally known as Magnolia Bench which is located east of Piceance Creek and also east of Rio Blanco County Road 5. In the last five years or so, wild horses outside of the PEDHMA have started to expand into new areas such as the Lake and Soldier Creek area. The BLM is aware of wild horses moving into the Ryan Gulch area outside of the PEDHMA boundary, but it is unknown if they have also moved into other major drainages such as Fawn Creek or Black Sulphur Creek.

Wild horse gathers/removals have been conducted 18 times over the past 37 years in the area: 1980, 1981, 1983, 1984, 1985, 1989, 1991, 1992, 1993, 1994, 1996, 1997, 1998, 1999, 2002, 2006, 2010, and 2011. The last time that excess wild horses were gathered and removed in the area was in 2011 due to an overpopulation of wild horses within the PEDHMA and included gather operations for those excess wild horses that had relocated outside of the PEDHMA. Not all of the previous gathers targeted the gather and removal of excess wild horses located outside of the PEDHMA. Not all of the previous gather operations were fully successful in meeting project objectives or were only partially successful in some areas while not successful in other areas which made for a varied outcome from the original objectives of the project (i.e., selective gather/removal turns into a gate cut gather/removal having reduced the number of wild horses in one area instead across the landscape).

Wild horse distribution is becoming more and more lopsided in that heavier utilization is occurring where water sources of necessary quantity and quality exist with those connected habitats outside of the PEDHMA at higher, continued risk of degradation. Wild horses that have located outside can remain outside but on occasion have been found back within the PEDHMA boundary. Past gather operations and the removal of excess wild horses in specific areas have resulted in decreased forage competition with livestock. Competition with other ungulates (including deer and elk) is over forage, water, space and cover necessary for healthy survival by all that utilize the area. Over the last several decades, various amounts of land were burned by wild fires on the range. Wild horses that used these areas prior to the fires are expected to move into different areas until forage and cover resources within the burned area have recovered. Wild horses continue to seek areas outside of the PEDHMA and perhaps outside of the areas they are known to currently occupy (i.e., further to the east in Black Sulphur Creek).

Based on past and current inventories of wild horses it is apparent that occupation and use by wild horses has extended beyond the PEDHMA boundary and in some cases onto private lands. When this occurs it makes it difficult for land owners to manage their livestock and their domestic horses because when a wild horse gains access to private lands they may injure and/or breed with the domestic horse(s), attempt to incorporate the domestics into a herd, and make use of the forage and water resources on those private lands.

Genetic Diversity and Viability

Blood samples have been collected from the wild horses gathered and/or removed from inside and outside of the PEDHMA in past years with genetic baseline data (e.g., genetic diversity, historical origins of the herd, unique markers) included in written reports received in 2002 and 2010. The samples were analyzed by Dr. E. Gus Cothran, previously with Department of Veterinary Science, University of Kentucky, Lexington, KY, now with Equine Genetics Laboratory, Texas A&M University. There is no identified need at this time to gather any genetic samples from wild horses that would be gathered or removed from outside of the PEDHMA.

Smaller herds (<200 horses) which experience some degree of isolation tend to lose genetic information through genetic drift. The loss of genetic material has a negative impact on the genetic composition of a small herd. Wild horses located outside of the PEDHMA are not managed for a viable healthy breeding wild horse herd.

5.4.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

All wild horses would experience varying levels of stress during herding, gather, handling, and holding when gathered. Wild horses herded using helicopter drive trapping and helicopter assisted roping would be herded cross country. Those wild horses gathered during water and bait trapping would not be herded cross country. Stress levels, and the potential for injury, would be highest immediately following gather when wild horses are moved through the chutes during sorting and when they are being loaded into trailers. Confinement of wild horses at the temporary holding facility may increase the likelihood of injury, and stress/confinement related illness.

If the local conditions require a helicopter drive-trap operation, the BLM would use a contractor or in-house gather team to perform the gather activities in cooperation with BLM and other appropriate staff. The contractor would be required to conduct all helicopter operations in a safe manner and in compliance with Federal Aviation Administration (FAA) regulations 14 CFR § 91.119 and BLM WOIM #2010-164.

Helicopter drive trapping involves use of a helicopter to herd wild horses into a temporary trap. CAWP Standards outlined in Appendix B would be implemented to ensure that the gather is conducted in a safe and humane manner, and to minimize potential impacts or injury to the wild horses. Traps would be set in an area with high probability of access by wild horses using the

topography of the area, if possible, to assist with capturing excess wild horses residing within the area. Traps would consist of a large catch pen and may or may not include several connected holding corrals, jute-covered wings and a loading chute. The jute-covered wings are made of material, not wire, to avoid injury to the wild horses. The wings form an alley way used to guide the wild horses into the trap. Trap locations are changed during the gather to reduce the distance that the animals must travel or if the trap's design needs adjustment. A helicopter is used to locate and herd wild horses to the trap locations. The pilot uses a pressure and release system while guiding them to the trap site, allowing them to travel at their own pace. As the herd approaches the trap the pilot applies pressure and usually a prada horse (trained domestic horse) is released guiding the wild horses into the trap. Once wild horses are gathered they are removed from the trap and transported to a temporary holding facility where they are sorted, or if the trap location and temporary holding facility are one immediately after capture the wild horses are sorted all in attempts to reduce injury and stress to the animals.

The helicopter work is done at various heights above the ground, from as little as 10-15 feet (when herding the animals the last short distance to the gather corral) to several hundred feet (when doing a recon of the area). While helicopters are highly maneuverable and the pilots are very skilled in their operation, unknown and unexpected obstacles in their path can impact their ability to react in time to avoid impacts to the wild horses being herded by the helicopter in that they may not be able to react and can be potentially harmed or caused to flee which can lead to injury and additional stress. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern by potentially causing loose vegetation, dirt, and other objects to fly through the air which can strike or land in close proximity as well as cause decreased visibility for the wild horses. Though rare, helicopter crashes and hard landings can and have occurred (approximately 10) over the last 40+ years while conducting wild horse gathers which necessitates the need to follow gather operations and visitor protocols at every wild horse gather to assure safety of the people and animals involved. Flying debris caused by a helicopter incident would pose a safety concern to BLM and contractor staff, visitors, and the wild horses.

During the herding process, wild horses could try to flee if they perceive that something or someone suddenly blocks or crosses their path. Fleeing wild horses could go through wire fences, traverse unstable terrain, and go through areas that they normally would not travel in order to get away, all of which can lead them to injure themselves or people by striking or trampling them if they are in the animal's path. Disturbances in and around the gather and holding corral have the potential to injure the government and contractor staff who are trying to sort, move and care for the wild horses by causing them to be kicked, struck, and possibly trampled by the animals trying to flee. Such disturbances also have the potential for similar harm to the public themselves. Both the herding processing and the disturbances in and around the gather/holding corrals has the potential for wild horses to be injured due to the activities causing the animals to be stressed, however, as they become use to the various activities they have been known to settle down and in many instances have started to simply watch the activities without incident.

Trap locations could be placed at a given location for 1 day up to several weeks; however, helicopter trap locations are usually in place for 1 day up to several days and are commonly located on previously disturbed areas. Bait and water trap locations could be utilized intermittently or continuously. For example, an intermittent trap would be utilized for 2 consecutive days and then left in place until needed again either several days later or several weeks later. When traps are left in place and not being utilized to capture wild horses it would be open enough for wild horses, livestock and other wildlife to enter and exit at will while a continuous trap would be utilized daily after constructed until it was deemed no longer necessary at a given location.

Well placed and well-constructed traps and temporary holding facilities, safety-conscious corral construction, additional pens (if necessary) for any wild horses that need kept separate from other wild horses, as well as well-maintained equipment would decrease stress and the potential for injury and illness of those wild horses that have been gathered. The CAWP Standards (Appendix B) would be implemented and are expected to further reduce the potential for stress, injury and/or illness of the wild horses gathered.

Experienced BLM personnel (reference April 2001, Western Horseman article regarding “Handling Mustangs” at BLM facilities) would be onsite during all phases of the operation. The BLM plans to have an Animal and Plant Health Inspection Service (APHIS) or contracted licensed veterinarian on-site throughout the gather operations to examine animals and make recommendations to BLM for care and treatment of wild horses. BLM staff would be present at the gather at all times to observe animal condition, ensure humane treatment of wild horses, and ensure contract requirements are met. To continue to further minimize the level of activity, address health and safety of observers, and reduce stress to wild horses, the BLM would ask that observers remain some distance from the wild horses during all phases of the gather and holding of wild horses within temporary facilities.

Since 2004, BLM Nevada has gathered over 40,000 excess animals. Of these, gather related mortality has averaged only 0.5%, which is very low when handling wild animals. Another 0.6% of the animals captured were humanely euthanized due to pre-existing conditions and in accordance with BLM policy. This data affirms that the use of helicopters and motorized vehicles are a safe, humane, effective and practical means for gathering and removing excess wild horses and burros from the range.

The BLM policy prohibits gathering wild horses by helicopter during the 6 weeks prior to and following the peak foaling season. The peak of foaling occurs between mid-April to mid-May. Therefore, the use of helicopters to assist in the removal of wild horses from March 1 through June 30 is prohibited (unless an emergency situation exists). This timing limitation would be expected to decrease impacts and disruption to mares and foals during critical birth and bonding timeframes.

During any gather operation wild horses may become separated from other members of their band(s), and some may ultimately escape being gathered, requiring subsequent gather efforts. If

subsequent annual gathers, are needed wild horses potentially become more and more difficult to gather as the herd and the band sizes decrease and with habituation to gather methods (helicopter and/or water and bait trapping). It is expected that after the initial gather and removal in 2017, that the remaining wild horses in a given area would form smaller bands and in some cases become solitary wild horses. Wild horses that evade being gathered, during the initial gather, would experience herding stress as described above each time they are herded until they are gathered. Wild horses are herd animals so it is expected that as wild horses are gathered and removed that those wild horses that remain would eventually reform into new bands that may all be bachelors or may be bands that include mares and stallions, however, there are times when there could be a single wild horse with no band.

Over the past several decades, various impacts to wild horses as a result of gather activities have been observed. Under the action alternatives, impacts to wild horses would be both direct and indirect, occurring to both individual horses and the population as a whole. The BLM has been conducting wild horse gathers since the mid-1970s, and have been using helicopters for such gathers. During this time, methods and procedures have been identified and refined to minimize stress and impacts to wild horses during gather implementation.

Individual, direct impacts to wild horses include the handling stress associated with the roundup, capture, sorting, handling, and transportation of the animals. The intensity of these impacts varies by individual, and is indicated by behaviors ranging from nervous agitation to physical distress. When being herded to trap site corrals by the helicopter, injuries sustained by wild horses may include bruises, scrapes, or cuts to feet, legs, face, or body from rocks, brush or tree limbs. Rarely, wild horses may encounter barbed wire fences and may receive wire cuts. These injuries are very rarely fatal and are treated on-site until a veterinarian can examine the animal and determine if additional treatment is indicated.

Other injuries may occur after a wild horse has been captured and is either within the trap site corral, the temporary holding corral, during transport between facilities, or during sorting and handling. Occasionally, wild horses may sustain a spinal injury or a fractured limb but based on prior gather statistics, serious injuries requiring humane euthanasia occur in less than 1 horse per every 100 captured. Similar injuries could be sustained if wild horses were captured through bait and/or water trapping, as the animals still need to be sorted, aged, transported, and otherwise handled following their capture. These injuries result from kicks and bites, or from collisions with corral panels or gates.

To minimize the potential for injuries, the wild horses are transported from the trap site to the temporary (or short-term) holding facility where they are sorted as quickly and safely as possible, then moved into larger holding pens where they are provided with hay and water. On some gathers, due to the temperament of the wild horses that are not as calm, injuries may be more frequent. Indirect individual impacts are those which occur to individual wild horses after the initial event. These may include miscarriages in mares, increased social displacement, and conflict between stallions. These impacts, like direct individual impacts, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact

would be the brief 1-2 minute skirmish between older stallions which ends when one stud retreats. Injuries typically involve a bite or kick with bruises which do not break the skin. Like direct individual impacts, the frequency of these impacts varies with the population and the individual. It is unknown the number of miscarriages possible by wild horses that are gathered and removed, or those wild horses that evade being gathered, however, BLM believes the rate to occur in about 1 to 5 percent of the captured mares, particularly if the mares are in very thin body condition or in poor health. A few foals may be orphaned during a gather. This can occur if the mare rejects the foal, the foal becomes separated from its mother and cannot be matched up following sorting, the mare dies or must be humanely euthanized during the gather, the foal is ill or weak and needs immediate care that requires removal from the mother, or the mother does not produce enough milk to support the foal. On occasion, foals would be gathered that were previously orphaned on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor condition. Every effort would be made to provide appropriate care to orphan foals. Veterinarians may administer electrolyte solutions or orphan foals may be fed milk replacer as needed to support their nutritional needs. Orphan foals may be placed in a foster home in order to receive additional care. Despite these efforts, some orphan foals may die or be humanely euthanized as an act of mercy if the prognosis for survival is poor.

In some areas, gathering wild horses during the winter may avoid the stress that could be associated with a summer gather. By fall and winter, foals are of good body size and sufficient age to be easily weaned. Winter gathers are often preferred when terrain and higher elevations make it difficult to gather wild horses during the summer months. Under winter conditions, wild horses are often located in lower elevations due to snow cover at higher elevations. This typically makes the wild horses closer to the potential trap sites and reduces the potential for fatigue and stress. While deep snow can tire wild horses as they are moved to the trap, the helicopter pilots allow the wild horses to travel slowly at their own pace. Trails in the snow are often followed to make it easier for wild horses to travel to the trap site. On occasion, trails can be plowed in the snow to facilitate the safe and humane movement of wild horses to a trap. In some areas, a winter gather may result in less stress as the cold and snow does not affect wild horses to the degree that heat and dust might during a summer gather. Wild horses may be able to travel farther and over terrain that is more difficult during the winter, even if snow does not cover the ground. Water requirements are lower during the winter months, making distress from heat exhaustion rare.

By comparison, during summer gathers, wild horses may travel long distances between water and forage and become easily dehydrated. Depending on the year, the potential for reliable water resources to have a reduced flow during the summer months is possible so there is potential that for those wild horses that start out with a reduced intake of water would have a heightened risk of dehydration due to lack of base body fluids. Through the capture and sorting process, wild horses would be examined for overall general health as well as new or old injuries.

Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy WOIM #2009-041 would be used as a guide to determine if animals meet the criteria and should be euthanized. Animals that are euthanized for non-gather related reasons include those with old injuries such as broken or deformed limbs that cause

lameness or prevent the animal from being able to maintain an acceptable body condition (equal to or greater than BCS 3); old animals that have serious dental abnormalities or severely worn teeth and are not expected to maintain an acceptable body condition, and wild horses that have serious physical defects such as club feet, severe limb deformities, or sway back.

As the excess wild horses are gathered and removed from outside of the PEDHMA they would be transported to the Canon City holding facility or if circumstances warrant another BLM approved holding facility (i.e., Rock Springs, WY).

Transport, Short-Term Holding, and Adoption (or Sale) Preparation

Horses would be gathered into temporary traps and transported to temporary holding corrals to be processed and transported from the capture/temporary holding corrals to the designated BLM off-range corral facility(s) in accordance with BLM WOIM #2015-151. From there, they would be made available for adoption or sale to qualified individuals or placed in long-term pastures.

Wild horses selected for removal from the range would be transported to the receiving short-term holding facility in straight deck semi-trailers, goose-neck stock trailers or other approved vehicle. Vehicles would be inspected by the BLM Contracting Officer's representative (COR) or Project Inspector (PI) prior to use to ensure wild horses could be safely transported and that the interior of the trailer is in a sanitary condition. Wild horses would be segregated by age and sex and loaded into separate compartments. A small number of mares may be shipped with foals. Transportation of recently captured wild horses would be limited to a maximum of 8 hours. During transport, potential effects to individual horses may include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to be seriously injured or die during transport.

Upon arrival at the short-term holding facility, recently captured wild horses would be off-loaded by compartment and placed in holding pens where they would be fed good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. Lactating mares and young foals would be put in a separate pen to encourage pairing. At the short-term holding facility, a veterinarian would examine each load of horses and provide recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Wild horses in very thin condition or animals with injuries would be sorted and placed in hospital pens, fed separately and/or treated for their injuries as indicated. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. Some mares may lose their pregnancies. Every effort would be taken to help the mare make a quiet, low stress transition to captivity and domestic feed to minimize the risk of miscarriage or death.

After recently captured wild horses have transitioned to their new environment, they would be prepared for adoption or sale. Preparation would involve freeze-marking the animals with a unique identification number, drawing a blood sample to test for equine infections and anemia, vaccination against common diseases, castration, and de-worming. During the preparation process, potential impacts to wild horses would be similar to those that can occur during

handling and transportation. Serious injuries and deaths from injuries during the preparation process are rare, but can occur.

At short-term corral facilities, a minimum of 400 square feet would be provided per animal. Mortality at short-term holding facilities averages approximately 5 percent per year (GAO 2008), and includes animals euthanized due to a pre-existing condition; animals in extremely poor condition; animals that are injured and would not recover; animals which are unable to transition to feed; and animals which are seriously injured or accidentally die during sorting, handling, or preparation.

Adoption applicants would be required to have at least a 400 square foot corral with panels that are at least six feet tall for wild horses over 18 months of age. Applicants would be required to provide adequate shelter, feed, and water. The BLM retains title to the wild horse for one year and most of the wild horses and the facilities would be inspected to assure the adopter is complying with the BLM's requirements. After one year, the adopter may apply for title to the wild horse after an inspection from a humane official, veterinarian, or other individual approved by the authorized officer, at which point the wild horse would become the property of the adopter. Adoptions are conducted in accordance with 43 CFR 5750. Potential buyers would be required to fill out an application and be pre-approved before they may buy a wild horse.

A sale-eligible wild horse is any animal that is more than 10 years old; or has been offered unsuccessfully for adoption three times. The application also specifies that all buyers may not resell the animal to slaughter buyers or anyone who would sell the animal to a commercial processing plant. Sales of wild horses would be conducted in accordance with BLM policy.

Between 2007 and 2009, nearly 62 percent of the excess wild horses or burros removed in the WRFO were adopted and about 8 percent were sold with limitation (to good homes) to qualified individuals. Most wild horses 5 years of age and older would be transported to Long-term Pastures (LTPs). Each LTP would be subject to a separate environmental analysis and decision making process. Animals in LTPs would remain available for adoption or sale to individuals interested in acquiring a larger number of animals that can provide the animals with a good home. The BLM has maintained LTPs in the Midwest for over 20 years.

Potential impacts to wild horses from transport to adoption, sale and/or LTPs would be similar to those previously described. One difference is that when shipping wild horses for adoption, sale or LTP, animals may be transported for a maximum of 24 hours. Immediately prior to transportation, and after every 18-24 hours of transportation, animals would be offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal would be provided access to unlimited amounts of clean water and good quality hay with adequate space to allow all animals to eat at one time. Most animals would not be shipped more than 18 hours before they are rested.

LTPs would be designed to provide excess wild horses with humane, life-long care in a natural setting off the public rangelands. There wild horses are maintained in grassland pastures large

enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. About 31,000 wild horses (according to Off-Range Pasture Solicitation FAQs, Updated March 16, 2015), that are in excess of the existing adoption or sale demand (because of age or other factors), are currently located on private land pastures in Iowa, Kansas, Oklahoma, and South Dakota. Located in mid or tall grass prairie regions of the United States, these LTP are highly productive grasslands as compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 8-10 acres per animal). Mares and castrated stallions (geldings) would be segregated into separate pastures except one facility where geldings and mares would coexist. No reproduction would occur in the long-term grassland pastures, but foals born to mares that are pregnant when they were removed from the range would be gathered and weaned when they reach about 8-10 months of age and would then be shipped to short-term facilities where they would be made available for adoption. Handling by humans would be minimized to the extent possible although regular on-the-ground observation and weekly counts of the wild horses to ascertain their numbers, well-being, and safety are conducted. A very small percentage of the animals may be humanely euthanized if they are in very thin condition and are not expected to improve to a Body Condition Score (BCS) of 3 or greater (base on the Henneke Scoring System – updated October 26, 2016) due to age or other factors, see WOIM #2009-041. Natural mortality of wild horses in LTP averages approximately 8 percent per year, but can be higher or lower depending on the average age of the wild horses pastured there (GAO-09-77, Page 52). The savings to the American taxpayer which would result from contracting for LTP would average about \$4.45 per wild horse per day as compared with maintaining the animals in short-term holding facilities at a higher cost.

While humane euthanasia and sale without limitation of healthy wild horses for which there is no adoption demand would be authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004, 2010, and 2015 for this purpose. However, under the Section 116 of the 2017 Omnibus Spending Bill allows for the transfer of excess wild horses or burros, removed from public lands, to other Federal, State, and local government agencies for use as work animals. It also provides for the transfer to be conducted as soon as a request is received from such agencies. Animals that are transferred using this method would immediately lose its status as a wild horse or burro as defined under the WFRHBA. It also states, that any agency receiving animals through this type of transfer would not allow the animals to be destroyed, used in a way that would result in their destruction for, or transfer to any entity that would destroy the animals for use in commercial products. Euthanasia of these animals would only be done under the direction of a licensed veterinarian for cases of severe injury, sickness or old age.

Cumulative Impacts

Under this alternative, wild horses would experience the associated stresses and possible deaths during gather operations for as long as gather operations are being conducted until all of the excess wild horses are gathered and removed that are located outside of the PEDHMA boundary. Further, for those excess wild horses not gathered at this time, the remaining wild horses (a reduced number of wild horses) would experience the possibility of drought conditions, various sized wild land fires to the area, temporary disruptions from energy development related

activities (including facilities maintenance), various kinds of recreational uses in the area, and possibly a reduce level of competition associated with livestock and wildlife for forage/water/cover.

If BLM is successful in implementing the Proposed Action (if approved) excess wild horses located adjacent to the PEDHMA would be gathered and removed, would not occupy private lands, would not relocate further outside of the PEDHMA, and would not be available for viewing by the public in areas outside of the PEDHMA. The impacts to the various resources located outside of the PEDHMA would be removed from wild horses.

The WRFO would continue to manage a healthy wild horse herd in the PEDHMA.

5.4.3. Environmental Consequences – Alt B (Bait/Water Trapping Only)

Direct and Indirect Impacts

Impacts resulting from this alternative are similar to those of the Proposed Action, except that gathering excess horses using bait/water trapping could occur at any time of the year and traps would remain in place until the target number of animals are removed. Generally, bait/water trapping is most effective when a specific resource is limited, such as water during the summer months. For example, in some areas, a group of wild horses may congregate at a given watering site during the summer because few perennial water resources are available nearby. Under those circumstances, water trapping could be a useful means of reducing the number of wild horses at a given location, which can also relieve the resource pressure caused by too many wild horses. As the proposed bait and/or water trapping is considered a lower stress approach to gathering wild horses such trapping can continue into the foaling season due to anticipated reduced stress thereby reducing the potential for harm to the mares or foals.

Due to the presence of mountainous terrain, vegetative cover and the potential for summer thunder/rain and winter snow storm conditions, gather efficiency may be less than optimal. This type of gather operation regularly takes a minimum of several days up to several months to complete so wild horses are essentially in contact with human activity associated with the gather operation could either cause them to habituate to human activity thus lessening their wildness or cause them to avoid human activity thus retaining their wildness. Gather operations conducted during the winter can also be stressful to wild horses due to snow depths, potentially slick conditions, and cold temperatures, however, because they are not being herded into traps they would not experience stresses associated with cross country travel including temporary respiratory problems associated with breathing cold air.

Bait and/or water trapping would not necessarily be used, but may be used if circumstances require it. Bait and/or water trapping generally require a longer window of time for success than helicopter drive trapping. Although the trap would be set in a high probability area for capturing excess wild horses residing within the area, and at the most effective time periods, varied

amounts of time are required for the wild horses to acclimate to the trap and/or decide to access the water/bait.

Trapping involves setting up portable panels around an existing water source or in an active wild horse area, or around a pre-set water or bait source. The portable panels would be set up to allow wild horses to go freely in and out of the corral until they have adjusted to it. When the wild horses fully adapt to the corral, it is fitted with a gate system. The acclimation of the horses creates a low stress trapping method. During this acclimation period the wild horses would experience some stress due to the panels being setup and perceived access restriction to the water/bait source.

When actively trapping wild horses, the trap would be staffed or checked on a daily basis by either BLM personnel or authorized contractor staff. Wild horses would be either removed immediately or fed and watered for up to several days prior to transport to a holding facility. Existing roads would be used to access the trap sites.

Impacts to wild horses associated with transport, short-term holding, long-term holding, and adoption preparation would be the same as described in Alternative A.

Cumulative Impacts

Under this alternative, the cumulative impacts would be similar to Alternative A.

5.4.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under this alternative, wild horses would not experience the stresses associated with gathering, removal and/or adoption versus Alternatives A and B. The current population of wild horses would continue to increase at an annual rate of approximately 20 percent. With such a growth rate the population of wild horses would expect to be double by 2021 for approximately 472 wild horses located outside of the PEDHMA boundary. Wild horses would continue to compete for forage, water, cover and space with the wildlife and livestock in the area. The locations closest to water would experience the heaviest utilization and occurrences when wild horses may keep other wildlife and livestock from access to water sources especially during times of limited water sources. Wild horses would be expected to travel greater distances from water sources to available forage.

As a result, there would be no change to the social structure of the wild horses located outside of the PEDHMA. Projected population increases would result in increasing competition for available forage and water resources, and eventually lead to long-term deterioration of wild horse health. Lactating mares, foals, and older animals would be affected more than other wild horses in the population as they are most susceptible to stress, including forage and water depletion. Social stress among animals would likely increase when a shortage of resources increased. The potential risk of injury or death would increase as wild horses search and compete for forage and

water. Because wild horses are herd animals and since excess wild horses exist outside of the PEDHMA boundary there is an increased chance that wild horses located inside the PEDHMA would be drawn to join the excess wild horses located outside of the PEDHMA.

Cumulative Impacts

Wild horses would continue to seek the resources they need to survive which would place them well beyond their current locations outside of the PEDHMA boundary. Wild horse use and past and present land uses, such as livestock grazing and foraging by deer and elk would be expected to continue to occur in the future. Wild horses are expected to continue to seek areas beyond their current locations as the population increases both inside and outside of the PEDHMA boundary, the BLM would expect the wild horse population to reach levels that could in the future negatively impact the various resources ultimately impacting the health of individual wild horses and death losses would be expected.

5.5. Vegetation

5.5.1. Affected Environment

Native plant communities can be described by major plant associations that are characterized by one or two dominant plant species or an association of several dominant plant species. Distribution of these associations is influenced primarily by precipitation and elevation and, to a lesser extent, by aspect and soil type. Table 5 shows the vegetation communities by ecological sites and acres associated with each site within the analysis area.

Table 5. Vegetation Communities by Ecological Site by Acreage

Ecological Site/Woodland Type	Plant Community Appearance	Predominant Plant Species in Plant Community	Acres in the WRFO Outside the PEDHMA
Alkaline Slopes	Sagebrush/grass	Greasewood, Big Sagebrush, western wheatgrass, sand dropseed	4,989
Badlands	Barren	Low Desert Shrubs and grasses	2,133
Brushy Loam	Deciduous Shrub / Grass Shrubland	Serviceberry, oakbrush, snowberry, mountain brome, slender wheatgrass, western wheatgrass, Letterman and Columbia needle grasses	111,274
Clayey Foothills	Grass / Open Shrub Shrubland	Western wheatgrass, mutton grass, Indian rice grass, squirreltail, June grass, Wyoming big sagebrush, black sagebrush	5,529
Clayey Slopes	Grassland	Salina wildrye, mutton grass, western wheatgrass, June grass, squirreltail, shadscale	9,069

Ecological Site/Woodland Type	Plant Community Appearance	Predominant Plant Species in Plant Community	Acres in the WRFO Outside the PEDHMA
Deep Clay Loam	Grass / Open Shrub Shrubland	Western wheatgrass, slender wheatgrass, mutton grass, squirreltail, June grass, Letterman and Columbia needle grasses, mountain big sagebrush	1,892
Deep Loam	Grassland	Bluebunch wheatgrass, mottongrass, needle-and-thread, western wheatgrass, slender wheatgrass, big sagebrush, serviceberry, snowberry.	5,670
Dry Exposure	Grassland	Beardless bluebunch wheatgrass, needle-and-thread, June grass, Indian rice grass, fringed sage, buckwheats	11,484
Foothills Swale	Grass Shrubland	Basin wildrye, western wheatgrass, Indian ricegrass, big sagebrush, rubber rabbitbrush	42,729
Loamy Slopes	Mix Shrub / Grass Shrubland	Mountain mahogany, bitterbrush, serviceberry, mountain big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass	90,396
Mountain Loam	Grass / Open Shrub Shrubland	Mountain brome, slender wheatgrass, western wheatgrass, Letterman and Columbia needle grasses, mountain big sagebrush, bitterbrush, low rabbitbrush, snowberry, serviceberry	48,426
Pinyon/Juniper	Pinyon/Juniper Woodland	Pinyon pine, Utah juniper, mountain mahogany, bitterbrush, serviceberry, Wyoming big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass, mutton grass	312,849
Aspen Woodlands	Quaking Aspen Forest	Aspen, blue wildrye, mountain brome, idaho fescue, parry oatgrass, Columbia needlegrass, Lettermans needlegrass, nodding brome, snowberry, chokecherry, serviceberry, silver sagebrush	21,698
Rock Outcrop	Barren	Very scattered shrubs and grasses	8,102
Rolling Loam	Sagebrush/grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, horsebrush, bitterbrush, western wheat grass, Indian rice grass, squirreltail, June grass, Nevada and Sandberg bluegrass	23,400

Ecological Site/Woodland Type	Plant Community Appearance	Predominant Plant Species in Plant Community	Acres in the WRFO Outside the PEDHMA
Salt Desert Breaks	Salt Desert Shrubland	Galleta, salina wildrye, squirreltail, Indian rice grass, needle-and-thread, shadscale, winterfat	3,943
Spruce-Fir woodland	Spruce / Fir Forest	Douglas fir, serviceberry, chokecherry, snowberry, elk sedge, mountain brome	13,368
Stony Foothills	Grass / Open Shrub Shrubland	Beardless bluebunch wheatgrass, western wheatgrass, needle-and-thread, June grass, Indian rice grass, fringed sage, Wyoming big sagebrush, black sage, serviceberry, pinyon and juniper	54,299
Torrifluvents	Nearly Barren	Sparse Desert Shrubs and annual grasses	1,643
Acres Unclassified			320
Total Acres			773,213

5.5.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

During gather operations, vegetation would be disturbed at the location of trap sites and holding facilities due to congregation and trampling by wild horses and the increased vehicle and foot traffic. However, impacts to vegetation due to trampling would be expected to be minimal because every effort would be made to place trap sites in areas that have already been disturbed. The amount of vegetation that would be disturbed or affected is dependent on the number of wild horses gathered at a specific site and the duration those wild horses remain at the trap site/holding facility. Vegetation disturbance would be short term and limited to locations of temporary gather and holding facilities. It would be expected that plant communities would recover from disturbance within three years. Under this alternative, trap sites may be re-used annually until excess wild horses are captured and removed, which would result in less opportunity for recovery between gather operations. Previous gather operations have typically utilized areas of existing disturbance for trap location such as roads, or well pads allowing for fewer disturbances of native vegetation communities. It would be expected that as the number of excess wild horses is reduced, the quantity of trap sites needed would be reduced. It would be expected that the health and vigor of rangeland vegetation communities outside of the PEDHMA would improve as the population of excess wild horses is reduced.

Cumulative Impacts

Activities that have impacted vegetation in the past and would be expected to continue to impact vegetation in the analysis area include oil and gas exploration, recreation, livestock and wild horse grazing. It is reasonably foreseeable there would be continued development of oil and gas

resources within this area above the existing infrastructure associated with oil and gas exploration including well pads, pipelines, roads, and compressor stations. Construction of new oil and gas infrastructure would reduce the amount of vegetation available for forage. As these disturbed lands are reclaimed, however, it would be expected to improve the health of vegetation communities. Livestock grazing results in removal of forage, however the number of animals, season of use, duration, and species of grazing animal is controlled to avoid long-term degradation of vegetation. In the event of drought or wildfire, livestock could be removed from the range to prevent damage. Negative impacts to vegetation from Alternative A would be considered short term, and vegetation would be able to recover.

5.5.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to the vegetation communities under Alternative B would be similar to those described for Alternative A. If trap sites are not located within areas of pre-disturbance, vegetation would be affected by trampling and congregation of wild horses at the trap site horses and the increased vehicle and foot traffic. The primary difference would be the duration the trap sites are left constructed and active. Under this alternative, the time period to gather and remove excess wild horses would likely be increased, although gather operations would likely be prolonged, this would not be expected to increase the impacts on vegetation communities associated with gather activities.

Cumulative Impacts

Cumulative impacts are the same as those described under Alternative A.

5.5.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under Alternative C wild horses would not be gathered and removed from areas outside of the PEDHMA. There would be no impacts associated with gather operations. Vegetation would not be trampled or disturbed as a result of any gather activities. Failure to gather wild horses would result in increased utilization of vegetation as the wild horse population increases. The constant overuse of rangeland vegetation would decrease the ability of plants to complete their growth cycle, recover from grazing while decreasing regeneration. As a result, desirable native plants would eventually be replaced by less desirable, often non-native plants, most commonly the invasive annual cheat grass.

Cumulative Impacts

As addressed in Alternative A, oil and gas exploration, recreation, livestock and wild horse grazing are the primary activities which have or are currently influencing vegetation communities in the analysis area. Failure to gather wild horses would result in increased utilization of vegetation as the wild horse population increases, this increase combined with wildlife and livestock use would exceed the amount of available forage resulting in continual

overuse. The constant overuse of rangeland vegetation under the No Action alternative would decrease the ability of plants to complete their growth cycle, recover from grazing while decreasing regeneration. As a result, desirable native plants would eventually be replaced by less desirable, often non-native plants, most commonly the invasive annual cheat grass. Once the desired native rangeland vegetation community has been lost it generally cannot recover without human intervention, which is often time consuming, and expensive. The loss of valuable rangeland forage would force wild horses to continue to expand their range to areas outside of the PEDHMA where they are not found as of this date, likely resulting in an increase to the geographic scope of impacts associated with heightened year-long use to native vegetation communities including those located outside of the PEDHMA as wild horse use increases.

5.6. Livestock Grazing

The proposed gather and removal area overlaps 41 grazing allotments entirely, as well as partially overlapping 4 additional allotments (Cathedral Bluffs, East Douglas Creek, Square S, and Twin Buttes) refer to Table 6. The total BLM land authorized for livestock grazing in this area is 514,165 acres, the remaining 3,123 acres of BLM land within the analysis area is not included within allotments authorized for livestock grazing. Season of use during which livestock are authorized to graze varies by allotment and ranges from spring to late winter.

Table 6. Allotment Acres and Authorized Active Animal Unit Months (AUMs) within the Analysis Area

Allotment Name	BLM Acres of Allotment within Analysis Area	Private or State Acres of Allotment Within Analysis Area	BLM Authorized Active AUMs
Black Sulphur	15,764	4,046	1,655
Boise Creek¹	8,327	0	1,023
Brush Hole	887	870	140
Cathedral Bluffs	31,270	10,854	5,175
Cow Creek	7,816	4,866	709
Davis Creek	4,627	1,210	516
Duck Creek	21,324	3,998	1,270
E Douglas Creek	35,150	2,048	2,400
E Fork Spring Creek	3,318	949	196
Fawn Creek	19,265	18,483	1,749
Fourteen Mile	2,499	471	220
Gordon Gulch	4,733	0	250
Hammond Draw	6,903	0	215
Hatch Gulch	8,887	554	656
Hyberger	1,684	202	350
Little Hills	34,159	368	,959
Little Rancho	1,138	917	260
Little Spring Creek	13,150	1,402	931
Lower Fletcher Draw	9,649	95	513
Lower Fourteen Mile	3,030	853	169
Main Dry Fork	10,127	1,268	1,356

Allotment Name	BLM Acres of Allotment within Analysis Area	Private or State Acres of Allotment Within Analysis Area	BLM Authorized Active AUMs
McCarthy Gulch	1,283	2,613	32
McKee/Collins	9,438	176	708
MTW	17,746	9,455	1,441
North Dry Fork	11,960	9,502	812
Oldland Gulch	10,791	303	1,040
Piceance Creek	8,878	23,282	1,063
Pine Knott Gulch	978	230	96
Powerline	567	291	71
Puckett Gulch	1,406	2,194	60
Reagles	19,470	2,519	952
Robinson	266	342	30
Schutte Gulch	3,858	2,286	146
Segar Gulch	13,499	129	1,225
Segar Mountain	5,690	330	617
Skinner Ridge	939	637	119
Slash EV	30,683	13,826	3,757
Spring Creek	31,756	8,475	3,642
Square S	51,444	10,070	3,522
Thirteen Mile	7,267	716	766
Twin Buttes	14,852	4,136	11,550
Upper Fletcher Draw	6,242	1,281	506
Upper Thirteen Mile	698	1,221	150
West Stewart Gulch	19,677	29,969	2,016
Wood Road Gulch	1,073	170	72
Total	514,165	17,7605	57,105

¹The allotments in **bold text** in the table are either adjacent to the PEDHMA or wild horses have been observed in these allotments.

5.6.1. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Under the Proposed Action, wild horse gather operations would likely have few direct impacts to livestock grazing. BLM coordinates with livestock operators in areas where and while gather operations are conducted. Livestock located near gather activities would be temporarily disturbed or displaced by helicopter activity and the increased vehicle traffic during gather operations. Typically livestock would move back into the area once gather operations cease. Bait and water traps are continuously monitored while they are active, therefore there would be little chance that livestock would become inadvertently trapped. Placement of bait and water traps would not likely disrupt grazing management practices. If water traps are placed in an area which livestock rely for water, they would be constructed in a manner that would not exclude livestock or wildlife use. As identified above in bold text, it is expected that gather operations would be

concentrated within allotments adjacent to the PEDHMA, or within those allotments where wild horses have been observed outside of the HMA.

Cumulative Impacts

The analysis area for rangeland management includes the allotments located outside of the PEDHMA. Reasonably foreseeable activities in this area include livestock grazing, oil and gas development and recreation.

Continued livestock grazing within these grazing allotments removes vegetation associated with AUMs which are allocated for livestock consumption. Wildlife grazing within these grazing allotments removes vegetation associated with AUMs, which are allocated for wildlife consumption.

The BLM currently anticipates a further increase in oil and gas activity within this area; however, existing infrastructure associated with these activities (i.e., well pads, pipelines and compressor stations) has resulted in long-term removal of vegetation. Current reclamation associated with this activity has provided positive benefits to rangeland management, as these wells begin to lose production value and are successfully reclaimed, increasing the amount of valuable forage.

Recreation activities (i.e., hunting, hiking, OHV use) may result in removal and impact to vegetation associated with AUMs, which are allocated to livestock and wildlife for consumption. In addition, activities may displace livestock and redistribute animals within the allotment resulting in unanticipated distribution.

Generally, impacts associated with the Proposed Action would be considered short term, and would not have long-term effects to rangeland management.

Alternatives A and B would result in the removal of excess wild horses from those areas located outside of the PEDHMA (analysis area). Livestock distribution would improve allowing for lower utilization and deferment, which may improve vegetation communities.

5.6.2. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to livestock grazing management for this alternative would be similar to those described for Alternative A. There would be no potential for displacement of livestock due to helicopter activity under this alternative.

Cumulative Impacts

Cumulative impacts would be the same as those described under Alternative A.

5.6.3. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under Alternative C wild horses would not be gathered and removed from the lands located outside of the PEDHMA (analysis area). There would be no short term impacts to rangeland resources associated with gather operations.

Cumulative Impacts

As addressed in Alternative A, oil and gas exploration, recreation, livestock, wild horse, and wildlife grazing are the primary activities which have or are currently influencing vegetation communities in the analysis area. Failure to gather wild horses would likely result in impacts to the rangeland resources within the analysis area including irreversible loss of native perennial vegetation resulting in a conversion to unhealthy, low producing rangelands unable to support livestock, wildlife, or wild horse grazing. Once rangelands have crossed this threshold they are then no longer comprised of healthy perennial vegetation communities capable of supporting the current Allotment Management Plan (AMP). This would require revision to the current AMP or implementation of human manipulations to restore degraded rangelands which are often time consuming and expensive to complete.

In the event of drought, fire, or other natural phenomenon which could drastically reduce the amount of available forage within the analysis area, the BLM would coordinate with livestock operators to reduce or remove livestock use to prevent irreversible degradation to rangeland resources. However, these proactive conservation efforts alone may not fully achieve deferment levels necessary to prevent longstanding resource damage if the excess wild horse population is not also reduced.

5.7. Special Status Plant Species

5.7.1. Affected Environment

Two plant species listed as federally threatened (FT) and five plant species listed as BLM sensitive species (S) occur within the areas of consideration for gather and removal actions and are listed below in Table 7.

Table 7. BLM Sensitive, and Threatened and Endangered Plant Species within the Analysis Area

Species	Common Name	Status ¹	Location
<i>Gentianella tortuosa</i>	Cathedral Bluff dwarf gentian	S	South Cathedral Bluffs ACEC
<i>Gilia stenothyrsa</i>	Narrow-stem gilia	S	Lower Greasewood ACEC
<i>Thalictrum heliophilum</i>	Cathedral Bluff Meadow-rue	S	South Cathedral Bluffs ACEC
<i>Lesquerella parviflora</i>	Piceance bladderpod	S	South Cathedral Bluffs ACEC, Piceance Creek
<i>Astragalus detritalis</i>	Debris milkvetch	S	Fletcher Gulch

<i>Physaria congesta</i>	Dudley Bluffs bladderpod	FT	Duck Creek ACEC, Lower Yellow Creek, Piceance Creek
<i>Physaria obcordata</i>	Dudley Bluffs twinpod	FT	Lower Yellow Creek, Piceance Creek

¹FT = Federally Threatened and S = BLM Sensitive

All seven of the plants occur on barren to semi-barren white shales of the Green River Formation except narrow-stem gilia, which is found on the Uinta Formation.

Monitoring studies in the South Cathedral Bluffs ACEC have indicated stable populations for the Utah gentian, the Piceance bladderpod and the Cathedral Bluff Meadow-rue. All three plants occur on shale barrens that are moderately to very steep and are not foraged upon by large herbivores due to the stature of the plant, steepness of the slope and the barrenness of their habitat. Monitoring data has not indicated that wild horses have occupied the habitats for these three species.

Likewise, monitoring studies for the Narrow-stem gilia in the Lower Greasewood ACEC have shown very little use of this plant's habitat by wild horses. Its habitat is also shale barrens on very steep slopes. Monitoring has indicated populations to be stable and is not foraged upon by large herbivores.

Two monitoring sites for the Dudley Bluffs bladderpod occur in the Duck Creek ACEC, one within the PEDHMA and one within Pasture B of the Square S allotment. The BLM established both monitoring sites in May 1996. Monitoring study within the PEDHMA has shown a declining trend with a 68 percent decrease in the density of the Dudley Bluffs bladderpod since the site's establishment. The monitoring study outside the PEDHMA within Pasture B showed a 7 percent decline in the density of the Dudley Bluffs bladderpod from 1996-2007.

Trampling damage by wild horses as well as livestock was noted at both study sites. The damage noted was from wild horses and livestock trailing across the study sites, from some animals rolling in the barren soil, and from wild horses scuffling and fighting. In most cases due to the weight of the animal and the size of their hooves, some individual plants that were trampled were uprooted or severed at the crown resulting in death of the plant.

There are multiple Piceance twinpod populations within the area under consideration. Piceance twinpod generally occurs on steep shale slopes in the analysis area. No monitoring studies occur for the Piceance twinpod within the area under consideration; however no evidence has been observed that wild horses or any other large herbivore occupy these sites in a manner that is detrimental to the threatened plants primarily as a result of the steep slopes and barren soils on which they occur.

5.7.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

The potential impacts associated with the Proposed Action would be short term impacts from placement of traps and wings for all gather methods or herding wild horses with a helicopter on or across the habitat of one or more of these special status plant species. Long-term impacts can be associated with the number of wild horses within the areas under consideration over a given time period. Removal of wild horses outside of the PEDHMA will benefit special status plants by eliminating trailing impacts across plant populations by wild horses.

No short or long-term impacts, negative or positive, are anticipated to occur to the Dudley Bluffs twinpod, the Narrow-stem gilia, the Piceance bladderpod, Debris milkvetch, Cathedral Bluff Meadow-rue, and Cathedral Bluff dwarf gentian. No impacts are anticipated to these six plant species due to the steepness of their habitat and due to the lack of evidence that wild horses use their habitats.

The Dudley Bluffs bladderpod is likely the only special status plant species that could be impacted by the Proposed Action. Its habitats are less steep than those of the other special status plants and are thus more likely to be utilized by wild horses.

During the removal operation, wild horses would be herded by helicopter to a trap site. When the wild horses are not near the trap, they would be allowed to proceed at their own pace, rather than being driven by the helicopter, on trails they are familiar with and use frequently. This part of the operation is not expected to impact the Dudley Bluffs bladderpod. Any trails used in the gather operation which cross the habitat for this plant are well used and have been so for many years. No individuals of this plant are expected to occur within these well-traveled trails.

The greatest potential for impact from the removal operation on the Dudley Bluffs bladderpod would be the location and placement of the trap and the trap wings. Construction of the wings and trap involves mostly hand labor and very little surface disturbance. Some disturbance would come from wild horses being pushed and squeezed in the wings and the trap. There is likely to be surface trampling by the wild horses in the wings and in the trap. Design features in the Proposed Action would help mitigate these impacts. The BLM would not construct trap locations or temporary holding facilities within 300 meters of known occupied habitat for listed plant species. If trap sites are anticipated in potential or suitable habitat that have not been previously disturbed, 24 hours of notification would be required and a pre-survey for special status plant species would be conducted prior to mobilization of vehicles and equipment by a BLM plant specialist. If BLM Sensitive plant species or federally listed plant species are located, another site would be selected at a distance greater at least 300 meters from the edge of the population or occurrence and pre-surveyed similarly, as necessary.

Bait and water trapping would not involve actively pushing horses to the trap. Horses would passively enter the trap on their own with no pressure and would likely use existing travel routes to get to the trap. No impacts would be expected to special status plants due to this type of trapping based on design features in the Proposed Action.

Cumulative Impacts

Past and present impacts to special status plants in the action area are generally related to energy development, road development, grazing, dispersed recreation, and wild horses. All of these activities would be expected to continue into the foreseeable future.

Cumulative impacts associated with the Proposed Action from gather operations would be expected to be negligible based on the incorporated design features. Long-term impacts from removing excess horses outside of the PEDHMA would be expected to decrease the amount of trailing and trampling damage to special status plants from wild horses; however livestock grazing in the area would likely continue, and wild horses and cattle often use the same trails. Since trails would continue to be used it is unlikely trails through plant populations would completely heal themselves, but the amount of trailing activity would be decreased by removing wild horses.

5.7.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts from bait and water trapping would be the same as those analyzed in the Proposed Action less the helicopter drive trapping.

Cumulative Impacts

Cumulative impacts of alternative B would be the same as those analyzed in the Proposed Action.

5.7.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

The No Action Alternative would have no impacts on plants as a result of gather operations. No traps would be set up on BLM lands and horses would not be herded into traps using helicopters.

Long-term impacts to special status plants from the No Action Alternative would primarily be related to the continued trailing/trampling of special status plants from wild horses. Horse populations would continue to grow if no gathers/removals occur increasing the amount of potential trailing across plant populations.

Cumulative Impacts

Past and present impacts to special status plants in the action area would be the same as those analyzed in the Proposed Action. Cumulative impacts from the no action alternative would be the continued trailing and trampling of special status plants by wild horses. As wild horse populations continue to grow into the future, trailing use would continue to increase as populations increase if no gathers/removals occur in the future.

5.8. Terrestrial Wildlife

5.8.1. Affected Environment

Big game

The analysis area supports year-round big game use. The higher elevation aspen/spruce-fir woodlands that make up the extreme southern portion of the analysis area as well as the Cathedral Bluffs are classified by Colorado Parks and Wildlife (CPW) as mule deer summer range. These ranges typically receive use from May through September. The remainder is classified as winter range, with those areas along the White River and Piceance Creek further delineated into severe winter range/winter concentration areas. Severe winter range is considered a specialized component of winter range that supports virtually all of a herd's population in the most extreme conditions (heavy snowfall, extreme cold temperatures, etc.). These winter ranges are generally occupied from October through April.

Raptors

Raptor nesting activities are dispersed throughout the analysis area. Mature components of pinyon-juniper woodlands, as well as aspen and spruce-fir woodlands may provide suitable nest substrate for woodland raptors including accipiters, buteos, and stick nesting owl species. These woodlands may also provide substrate for cavity nesters such as flammulated, pygmy and saw-whet owls. Cliffs and rock outcrops in the area may support the nesting functions of golden eagle, red-tailed hawk, prairie and peregrine falcons. Nesting records for potentially affected hawks, eagles, and owls indicate that nest attempts (initiated as early as March) are largely (85 percent) complete and young fledged by early August. There are dozens of known (historic and recent) raptor nests documented throughout the analysis area.

Dusky Grouse

The analysis area encompasses a peninsula of higher elevation habitats along the southern boundary and bluffs that support year-long dusky grouse occupation. Grouse winter habitat and year-round distribution centers on mixed spruce and fir forest along the bluffs and like habitats throughout the southern extent of the analysis area. Habitats that support nesting, brood-rearing, and general summer and fall distribution are confined to mixed shrub and higher elevation (above 7,200 feet) sagebrush habitats. After the first snows (~by mid-October), dusky grouse distribution is strongly associated with mature arboreal cover in spruce, fir, and pine, and diets consist primarily of conifer needles.

Small Mammals

Small mammal populations are poorly documented; however, the 20 or so species that are likely to occur in this area are widely distributed throughout the Great Basin or Rocky Mountain regions. Even though several species have relatively specialized habitat affiliation (i.e., shrubland with well-developed understories), all species display broad ecological tolerance. No narrowly distributed or highly specialized species or subspecific populations are known to occur in the analysis area.

5.8.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Big Game

Helicopter drive-trapping and assisted roping: Possibly for FY2017, extensive and potentially disruptive helicopter operations would be conducted in the analysis area during September. Helicopter herding represents a high-intensity, but transient source of disturbance that would become increasingly concentrated and more frequent near the trap site. Most big game would be on their summer ranges during this timeframe. By July, offspring would be sufficiently mobile to avoid disturbances, with little risk of separation from adults. It is doubtful that dispersed helicopter herding and the initially intense, but short-term and relatively predictable gathering/holding activities would contribute significantly to deterioration in animal fitness at the population level, but big game would tend to avoid or be displaced from areas within 0.5 to 1 mile of this activity. It is anticipated that displaced animals would return, more or less, to pre-disturbance distribution soon after gather operations at an individual site were complete.

Gather related effects would be similar to those discussed above if conducted July through February, except those operations may extend into the winter and late winter months of December through February when adverse weather and forage conditions exert their greatest influence on big game condition (i.e., on severe winter ranges) and when animals are most concentrated (i.e., winter concentration areas). Although disturbances would be short term, energy expended by animals repeatedly avoiding gather activity or fleeing close helicopter approach, particularly in more open sagebrush terrain and under snowpack conditions, may influence the subsequent condition (e.g., winter fitness, gestation) of those animals affected. An extended gather strategy, depending on the duration and frequency of operations on these ranges, may have adverse consequences on a relatively small portion of the big game population, but would provide a measure of flexibility in scheduling gathers to avoid important big game hunting seasons.

Water and bait trapping: Water or bait trapping would not be expected to have a substantial influence on big game populations or habitat. These operations involve the ground-based capture of individual animals. Although these capture techniques may be used during big game occupation, these operations represent very localized and short-term points of potential disturbance that would have no substantive adverse influence on animal distribution or energetics.

Nongame Species

Helicopter drive-trapping and assisted roping: As proposed, operations associated with the 2017 gather would generally be confined to timeframes outside of the raptor nesting season (possibly September) and would therefore have no potential to directly influence the outcome of nesting activities. The timing, intensity and duration of gather activities would not be expected to have any substantial adverse consequences on local bird populations. Helicopter based gather activities may coincide with the later reproductive activities of non-game wildlife from early July

through mid-August in subsequent years. In the case of passerine birds and small mammals, this intense, but localized activity has the potential to disrupt reproductive activity but at levels discountable at the local population level (see Migratory Bird section).

The relatively infrequent circumstance where active cliff or woodland raptor nests would be subjected to brief and close approach by helicopter activity late in the nesting sequence would not be expected to prompt prolonged nest absences or have any substantive influence on chick survival. Preparation and gathering work in July and August may infrequently involve late nesting attempts of raptors, including golden eagle and BLM-sensitive accipitrine hawks. Surveys of suitable raptor nesting habitat would be conducted by WRFO staff on those trap sites proposed for use or development during the breeding period. In the event an active raptor nest is found in the vicinity of trapping operations, these sites would be afforded a buffer adequate to effectively isolate nesting activity from disruptions generated by wild horse trapping operations.

Dusky grouse: Gather activities would be temporally or spatially asynchronous with and would have no effective influence on the reproductive or wintering functions of dusky grouse.

Water and bait trapping: Neither bait nor water trapping would be expected to have a substantial influence on raptors or habitats that support their reproductive functions. If trapping efforts occur during the nesting season (May – July), there may be potential for temporary displacement/disruption, however due to the nature of the sites (e.g., typically located in degraded or disturbed areas or in areas easily accessible by vehicle, etc.), it is unlikely that these locations would provide suitable substrate for nesting raptors. Trap sites would be localized and small in extent, and set-up duration as well as length of time animals would be in the trap is generally short-term. Depending on trapping success, these sites may remain in use for a longer period of time (several weeks). Coordination with wildlife staff would be necessary to ensure bait/water trap locations would have minimal impacts to woodland raptors. Surveys would be conducted by WRFO staff for bait/water trap sites proposed for use or development from April 15 to August 15 and, depending on survey results, trap sites may be relocated if necessary. Trapping efforts conducted outside the nesting season would not be expected to have any conceivable influence on raptor nesting activities.

Cumulative Impacts

In addition to wild horse use, energy development and livestock grazing are the primary activities impacting big game and nongame species and habitats in the analysis area. These activities can result in the reduction, modification or complete removal of forage and cover resources for local wildlife.

Alternative A (use of all gather methods) would not be expected to have any adverse consequences on local big game and nongame wildlife populations nor would it be expected to detract from habitat quality. Any impacts to vegetation would be localized and short term.

Removal of excess wild horses from outside the PEDHMA would eliminate competitive interactions of wild horses largely on big game summer and severe winter ranges. Reducing the overall grazing load through wild horse removal or reduction would provide both immediate and

longer term improvement in big game forage conditions throughout the year. For non-game wildlife species, removal of wild horses would in the short term increase herbaceous expression as forage and cover available in ridgeline, bottomland and mixed shrub and big sagebrush communities.

5.8.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to terrestrial wildlife species and habitats that provide forage and cover resources associated with bait and water trapping would be identical to those discussed above under Alternative A.

Cumulative Impacts

Cumulative impacts to terrestrial wildlife species and habitats that provide forage and cover resources would be similar to those described above under Alternative A.

5.8.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under the No Action Alternative there would be no direct or indirect impacts associated with gather operations (helicopter drive trapping and assisted roping, bait or water trapping) to big game and nongame species or habitats that provide forage and cover resources.

Cumulative Impacts

As addressed in Alternative A, grazing (both livestock and wild horse) and energy development are the primary activities that have or are currently influencing rangeland conditions that provide forage and cover resources for big game and nongame wildlife species in the analysis area. Although there would be no direct or indirect impacts associated with gather operations, failure to gather excess wild horses outside of the PEDHMA would result in continued year-long grazing use, exacerbating detrimental effects on wildlife resources, particularly in preferred use areas. Shifts in ground cover composition resulting from inappropriate levels of growing season use by wild horses compounded with authorized livestock use would reduce the suitability and utility of affected shrub-steppe habitat in the longer term and may be irreversible barring extraordinary management intervention. Progressive deterioration of native ground cover communities, particularly in sage-steppe habitats, would contribute to the cumulative range-wide deterioration and modification/loss of sagebrush habitats from oil and gas developments and the proliferation of invasive annual grasses.

Raptor nest habitat would not be directly affected by declining range conditions attributable to unregulated wild horse populations, however, these species would remain vulnerable to the indirect effects of declining range health, namely reduced abundance and diversity of avian and mammalian prey stemming from degraded herbaceous ground cover.

5.9. Special Status Animal Species

5.9.1. *Affected Environment*

There are no threatened or endangered animal species that are known to inhabit or derive important use from the analysis area.

The endangered Colorado pikeminnow occupies the lower White River below Taylor Draw dam. The White River and its 100 year floodplain below Rio Blanco Lake have been designated as critical habitat for the fish. Approximately two miles of the White River (~500 acres of critical habitat) are located within the analysis area, however this is all privately owned and does not involve any BLM administered lands. There is no occupied habitat that is located within the analysis area.

A number of animals that may inhabit the analysis area are classified as sensitive species by the BLM. These species are thought to be especially susceptible to population level influences. It is the policy of the BLM to identify these species on a state specific basis and ensure that BLM actions do not contribute to their becoming candidate for listing under the Endangered Species Act. Sensitive species that are known to occur or have a reasonable probability of occurring in the analysis area include: greater sage-grouse northern goshawk (integral with raptor discussion in Terrestrial Wildlife section), Brewer's sparrow (integral with the Migratory Bird section), Townsend's big-eared and big free-tailed bats fringed myotis Colorado cutthroat trout bald eagle, and northern leopard frog.

Greater sage-grouse: The southern extent of the analysis area supports sagebrush communities that provide habitat for greater sage-grouse. The greater sage-grouse is a BLM sensitive species and one that has received considerable management attention in the past several years. Based on the 2015 Northwest Colorado Greater Sage-grouse Approved Resource Management Plan Amendment (NW CO ARMPA), sage-grouse habitat has been classified into two types: 1) priority habitat management areas (PHMA) and 2) general habitat management areas (GHMA). PHMA is defined in the NW CO ARMPA as those areas having the highest conservation value to maintaining sustainable greater sage-grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas. Approximately 152,229 acres of PHMA is located within the analysis area. GHMA is defined in the NW CO ARMPA as lands that require some special management to sustain greater sage-grouse populations.

Isolated areas with low activity are typically considered to be general habitat. Roughly 91,248 acres of GHMA are located within the analysis area. Small numbers of sage-grouse have been sporadically encountered by local CPW staff in larger Wyoming big sagebrush parks, and within the last two years a small (3 – 5 bird) lek has been documented in the northwest polygon of the analysis area (along the Cathedral Bluffs), however there appears to be no consistent use or occupation of these habitats and the habitat offers few attributes that would be expected to serve summer/nesting functions. As such, the analysis area (which is classified as GHMA) is widely considered to be unoccupied or have an extremely low occupancy rate by greater sage-grouse. PHMA is largely confined to the southern portion of the larger polygon within the analysis area.

There are dozens of known leks scattered throughout the area with the majority of grouse use confined to the ridgelines.

Greater sage-grouse populations generally require large expanses of intact sagebrush habitat. Height and structure of herbaceous vegetation is an important component in nesting habitat and can influence sage-grouse nest site selection, nest success, and chick survival. Habitat requirements typically vary depending on season of use. Productive nesting areas are typically characterized by continuous sagebrush of the appropriate height and shape, with an understory of native grasses (typically bunchgrasses) and forbs, with a horizontal and vertical structural diversity that provides herbaceous forage for pre-laying and nesting hens, concealment from predators during the nesting period, and an insect prey base. Succulent forbs and mesic areas are important during the summer and late-brood rearing period. Both shrub canopy and grass cover are important for reproductive success. Sage-grouse begin nesting from mid-April through mid-May with chicks appearing from mid-May through mid-July; peaking from mid to late June.

Brewer's sparrow: Brewer's sparrows are common and widely distributed in virtually all big sagebrush and mixed brush communities throughout the analysis area. These birds are typically one of the most common members of these avian communities and breeding densities probably range between 10-40 pairs per 100 acres. Typical of most migratory passerines in this area, nesting activities normally take place between mid-May and mid-July. This species is addressed integral with the Migratory Bird section.

Northern goshawk: Upper elevation aspen and Douglas fir woodlands and mature components of pinyon and juniper woodlands within the analysis area likely support the nesting functions of northern goshawk. Goshawks establish breeding territories as early as March and begin nesting by the end of April. Nestlings are normally fledged and independent of the nest stand by mid-August. An influx of migrant goshawk appears to elevate densities in the WRFO during the winter months. This species is addressed integral with woodland raptors in the Terrestrial Wildlife section. There are roughly half a dozen documented goshawk nests in the analysis area.

Townsend's big-eared bat, big free-tailed bat, and fringed myotis: Although the distribution of these bats is poorly understood, recent acoustical surveys in the Piceance Basin and along the lower White River have documented the localized presence of Townsend's big-eared and big free-tailed bat along larger perennial waterways. These bats typically use caves, mines, bridges, and unoccupied buildings for night, nursery, and hibernation roosts, but in western Colorado, single or small groups of bats use rock crevices and tree cavities. Although rock outcrops and mature conifers suitable as temporary daytime roosts for small numbers of bats are widely available in the analysis area, and relatively extensive riparian communities are available along the White River and other larger tributaries, there are no underground mines or known caves, and unoccupied buildings are extremely limited in the analysis area. Birthing and rearing of young for these bats occurs in May and June, and young are flighted by the end of July. The big free-tailed bat is not known to breed in Colorado.

Midget faded rattlesnake: The midget faded rattlesnake is the smallest member of the western rattlesnake species complex. This subspecies is thought to be generally confined to the Green River geologic formation in southeast Wyoming, eastern Utah and western Colorado, and appears to have very narrow preference for bedded sandstone outcrops with fallen mid-slope slabs on south to southeast exposures below 7,000 feet in elevation. Midget faded rattlesnakes occur in small discrete groups and exhibit classic metapopulation distribution. These snakes display strong fidelity to and remain closely associated with hibernacula for overwintering and reproductive activities. Narrowly adapted to specialized habitat, this snake was documented in scattered locations across the WRFO and is likely the only rattlesnake south of the White River.

Bald eagle: The White River corridor is the hub for seasonal bald eagle use of the White River valley. Particularly during the late fall and winter months, several dozens of bald eagles make regular foraging use of open upland communities south of the river, and are particularly common along its larger tributaries (e.g., Piceance Creek, Black Sulphur Creek). These foraging forays from nocturnal roosts along the White River are dispersed and opportunistic. Concentrated diurnal use and nocturnal roosting functions during the winter, and summer use attributable to a number of nest sites (all on private lands) situated in river corridor's cottonwood stands, occur along the entire north edge of the project area.

Colorado River cutthroat trout: The East Douglas Creek Area of Critical Environmental Concern (ACEC), which encompasses the White-Colorado River divide and the East Douglas drainage, is located within the analysis area. This ACEC circumscribes the watershed contributing to most of the BLM administered native cutthroat trout habitat in the WRFO (lineage Colorado River). This ACEC was established through the 1997 RMP with the intent of highlighting these fishery values and as the basis to coordinate all land uses in a manner compatible with or complementary to stream habitat recovery. Occupied stream reaches include East Douglas, Bear Park, Lake Creek, and Soldier Creek. Colorado River cutthroat trout are also present in BLM administered portions of Black Sulphur Creek (outside the ACEC).

Northern leopard frog: Northern leopard frogs are sporadically distributed along the White River, East Douglas and Piceance Creeks. There have been no documented sightings along other perennial systems within the analysis area.

5.9.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Habitats occupied by Colorado pike-minnow are geographically separated from the analysis area. Because there is no reasonable likelihood that project related influences would extend beyond the analysis area gather operations would have no reasonable chance of affecting this species. Critical habitat (100 year floodplain) located within the analysis area is not administered by the BLM and would have no potential to be used/considered as bait/water trapping sites.

Helicopter drive-trapping and assisted roping: Impacts to special status animal species, would be similar to those described in the Aquatic Species, Migratory Bird and Terrestrial Wildlife sections.

Northern goshawk

There would be no potential to influence nesting outcomes of northern goshawk from 2017 gather efforts as they are scheduled to occur outside of the breeding season. Based on preferred nest site placement (interior of heavy canopied stands) and nest density, there would be a very low probability of helicopter encounters, much less prolonged or frequent disturbances that would jeopardize nest success late in the nesting season (July-August) should subsequent gather efforts occur during this timeframe. Requirements to survey areas potentially influenced by trapping and holding activities will reduce the risk of nest involvement in these instances to negligible levels.

Brewer's sparrow

Brewer's sparrow are widely distributed in suitable habitat across the analysis area. Reproduction in each of these species would normally be complete by early to mid-July. Brief and infrequent helicopter flyovers would not be expected to fail nest attempts late in the nesting sequence. The proportion of habitat and number of animals influenced by those facets of the gather that involve longer duration impacts (e.g., helicopter staging, holding and trap sites) would be discountable at the landscape and population levels (see for example, Migratory Birds section).

Sensitive Bats

It is unlikely that the analysis area offers habitat suitable for hibernation or rearing of young for the three species of bat (big free-tailed bat not known to reproduce in Colorado). Perhaps widely distributed singly or in small groups during the summer months, roosting bats may be subject to short term gather related activity at discrete trapping and holding sites, and briefly and infrequently during dispersed helicopter flyovers during July and August. Besides the potential for displacement of individuals from temporary diurnal roosts near holding/trapping sites and helicopter staging areas (about 50 acres maximum), gather operations would have no potential to interfere with any important roost functions (e.g., hibernacula, nurseries).

Midget faded rattlesnake

Due to the limited amount of suitable habitat (rock outcrops) and higher elevation of the analysis area (majority above 7,000 ft), impacts to midget faded rattlesnake associated with gather efforts would be minimal.

Colorado River cutthroat trout

Impacts to CRCT associated with helicopter gathers would be similar to those discussed for other fish species in the Aquatic Wildlife section.

Bald Eagle

The 2017 helicopter gather effort would not be expected to have an influence on nesting bald eagles as it is scheduled to occur outside the breeding period. Although subsequent gather efforts could coincide with the early nesting period, they would not be expected to disrupt nesting efforts. All nests are located on private lands along the White River where fences and other barriers preclude access from wild horses.

Greater sage-grouse

Helicopter gather efforts would largely take place outside of the sage-grouse reproductive period (March through early-July), and would occur well after young are sufficiently mobile. Improvements in understory associated with reductions in year-long grazing (particularly in PHMA) would far outweigh the short-term disruption/displacement associated with gather efforts.

Water and bait trapping: Impacts to special status animal species would be similar to those described in the Aquatic Species, Migratory Birds, and Terrestrial Wildlife sections. Coordination with wildlife staff would be necessary to ensure bait/water trap locations would have minimal impacts to special status animal species. Any trap or bait sites that have the potential to adversely influence special status species would be relocated.

Cumulative Impacts

Cumulative impacts to special status species would be similar to those discussed in the Aquatic Species, Migratory Birds, and Terrestrial Wildlife sections.

5.9.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to special status animal species associated with bait and water trapping would be similar to those described under Proposed Action for Aquatic Species, Migratory Birds, and Terrestrial Wildlife sections.

Cumulative Impacts

Cumulative impacts to special status animal species would be similar to those discussed in the Aquatic Species, Migratory Birds, and Terrestrial Wildlife sections.

5.9.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Impacts to special status animal species would be similar to those discussed in the Aquatic Species, Migratory Birds, and Terrestrial Wildlife species sections.

Cumulative Impacts

Cumulative impacts to special status animal species would be similar to those discussed in the Aquatic Species, Migratory Birds, and Terrestrial Wildlife sections. Failure to remove excess horses from outside the PEDHMA would result in continued year-long grazing which would

exacerbate deleterious effects on herbaceous understories. This would be of particular detriment to greater sage-grouse that require well developed and structurally diverse understories.

5.10. Migratory Birds

5.10.1. Affected Environment

The analysis area spans a variety of elevational ranges and habitat types. The southern extent of the analysis area is generally more rugged and higher in elevation. These steeper hillsides are broadly encompassed by pinyon-juniper woodlands throughout the mid-elevations. Upper elevation woodlands are largely comprised of Douglas fir, aspen and Engelmann spruce. High elevation sagebrush, mountain shrub and aspen are common throughout the south central and southeastern portion of the analysis area. The central and northern areas of the analysis area are largely comprised of low to mid-elevation sagebrush parks with a matrix of pinyon and juniper dominated ridges.

A wide variety of migratory birds fulfill nesting requirements in these woodland and shrubland communities during the breeding season (typically May through July). Species associated with these shrubland and woodland communities are typical and widely represented in the WRFO and the region. Several bird species have been identified as Birds of Conservation Concern (BOC) by the FWS including Brewer's sparrow, sagebrush sparrow, sage thrasher (sagebrush associates), pinyon jay, juniper titmouse Gray vireo, and Cassin's finch (pinyon-juniper associates). These birds are typically well distributed in extensive suitable habitats.

Portions of perennial or intermittent streams inside the analysis area boundary sporadically support a simple contingent of riparian-affiliated migratory birds (e.g., rough-winged swallow, song sparrow). Larger systems (i.e., main stem Douglas Creek) are represented by better developed willow and sedge dominated riparian vegetation that supports richer avian communities that include such members as yellow warbler blue grosbeak, yellow-breasted chat, and willow flycatcher.

5.10.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Helicopter drive-trapping and assisted roping: Primary gather and trapping operations would involve the use of aircraft and considerable ground activity, but these activities are typically widely dispersed and short in duration (i.e., helicopter surveillance and herding). As proposed for FY2017, gather operations associated with this alternative would be confined to timeframes outside the nesting season of all migratory birds (August or September) and would therefore have no potential to directly influence the outcome of migratory bird nesting activities. The timing, intensity and duration of gather activities would not be expected to have any substantial adverse consequences on local bird populations.

Helicopter gathers in subsequent years may influence nesting activities, particularly if gather operations were to take place during July (latter portion of the breeding season). There may be potential for inadvertent nest trampling and mortality of nestlings. This would be expected to

have the most pronounced influence on ground and low shrub nesting species. Assuming most nesting activity would have been completed by early July, it is unlikely that gather activities would disrupt a number of nests large enough to have discernible influence on population-level abundance or reproductive performance, even at the smallest landscape level. There would be no identified impacts resulting from this alternative during winter months when migratory birds are not present within the analysis area.

Bait and water trapping: Neither bait nor water trapping would be expected to have a substantial influence on migratory birds or habitats that support their reproductive functions. Impacts associated with trapping are typically concentrated but localized. If trapping efforts occur during the nesting season (May – July), there may be potential for temporary displacement/disruption due to high levels of disturbance, particularly if nest sites are in close proximity to concentrated activity. However, due to the nature of the sites (e.g., typically located in degraded or disturbed areas or in areas easily accessible by vehicle, etc.), it is unlikely that these locations would involve any more than one or two pair of birds. Trap sites would be localized and small in extent, and set-up duration, as well as length of time animals would be in the trap is generally short-term. Trapping efforts conducted outside the nesting season would not be expected to have any conceivable influence on migratory birds or associated habitats.

Cumulative Impacts

In addition to wild horse use, energy development and livestock grazing are the primary activities impacting migratory birds and migratory bird habitat in the analysis area. All of these activities result in the reduction, modification or complete removal of forage and cover resources for migratory birds. Alternative A (use of all gather methods) would not be expected to have any adverse consequences on local migratory bird populations nor would it be expected to detract from habitat quality. Any impacts to vegetation would be localized and short term.

Removal of excess wild horses from outside the PEDHMA would, in the short term increase herbaceous expression as forage and cover available for migratory birds in ridgeline, bottomland and mixed shrub and big sagebrush communities. In the long term, improvements/enhancement in herbaceous composition, density and height would be expected to result in increased nest densities in these shrubland and grassland communities.

5.10.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to migratory birds and habitats that provide foraging and nesting resources would be identical to bait/water trapping methods described above under Alternative A.

Cumulative Impacts

Cumulative impacts to migratory birds and habitats that provide foraging and nesting resources would be similar to those described above under Alternative A.

5.10.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under the No Action Alternative there would be no direct or indirect impacts associated with gather operations (helicopter drive trapping and assisted roping, bait or water trapping) to migratory bird nesting activities or habitats that support their breeding functions.

Cumulative Impacts

As addressed in Alternative A, livestock grazing, energy development and wild horse use are the primary activities that have or are currently influencing rangeland conditions that support migratory bird nesting functions in the analysis area. Although there would be no direct or indirect impacts associated with gather operations under this alternative, failure to gather wild horses would allow for continued reductions or modifications in upland rangeland conditions associated with year-long grazing use. This would prolong and exacerbate detrimental effects on wildlife resources, particularly in preferred use areas. Strong reductions in the density and height of herbaceous ground cover from collective ungulate grazing would be expected to depress nest success and or breeding densities, particularly to ground nesting and near-ground nesting species. Shifts in ground cover composition resulting from inappropriate levels of growing season use by wild horses compounded by authorized livestock use would reduce the suitability and utility of affected shrub-steppe habitat in the longer term and may be irreversible barring extraordinary management intervention.

5.11. Aquatic Wildlife

5.11.1. Affected Environment

There are dozens of perennial and intermittent streams located within the analysis area, several of which are known to support populations of higher order aquatic species. Speckled dace, a native minnow, are common in East Douglas, Piceance and Cathedral Creeks. Approximately 22 river miles of the White River (all privately owned) are located within the analysis area. This system provides habitat for a number of native and non-native fish species, amphibians and dozens of avian species. The remainder of the systems in the analysis area are not known to support fisheries or herptile populations. Perennial and ephemeral ponds and reservoirs located throughout the analysis area may provide habitat for tiger salamander and chorus frog, as well as BLM sensitive northern leopard frog (see also Affected Environment in Special Status Animal Species section). East Douglas, Lake, Soldier and Black Sulphur Creeks support populations of BLM sensitive Colorado River cutthroat trout. This species was discussed above in the Special Status Animal Species section.

5.11.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Helicopter drive-trapping and assisted roping: As conditioned by the design features, helicopter drive trapping and roping would have little if any discernable direct influence on aquatic wildlife communities. Safeguards integral with the Proposed Action are intended to reduce the risk of

water contamination from helicopter fueling or inadvertent fuel spills. Drive trapping and roping operations, including helicopter staging areas and drive trap/holding areas would be sited to preclude direct or indirect riparian or aquatic habitat involvement.

Bait trapping: Bait trapping would not be expected to have a substantial influence on aquatic communities. Bait stations would be sited to avoid any direct involvement with the floodplain or riparian/aquatic habitat.

Water trapping: As mitigated, there would be very little potential for water trapping efforts to influence aquatic communities. Proposed sites would be surveyed by BLM wildlife staff prior to use. If it is determined that trapping efforts would negatively influence aquatic communities, an alternate location would be used.

Cumulative Impacts

In addition to wild horse use, energy development and livestock grazing are the primary activities influencing aquatic communities in the analysis area. These activities have the potential to result in alteration or reductions in riparian vegetation and upland rangeland conditions, which may influence riparian communities (reservoirs) and downstream channel conditions. Alternative A (use of all gather methods) would not be expected to have any adverse consequences on aquatic wildlife populations nor would it be expected to detract from habitat quality. Any impacts to riparian vegetation associated with water trapping efforts would be localized and short term (see Riparian in Section 4.2 above).

Removal of excess wild horses from outside the PEDHMA would reduce year-long grazing use of riparian areas and surrounding uplands. Reducing grazing intensity would allow greater expression of obligate riparian and wetland species that provide superior erosion resistance and are the key elements in supporting processes that improve and restore channel function. Proper functioning systems increase channel stability, prolong flow and generally support richer and more diverse vertebrate and invertebrate animal communities than degraded systems.

5.11.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts to aquatic communities associated with water and bait trapping would be identical to those described above under Alternative A.

Cumulative Impacts

Cumulative impacts associated with bait and water trapping would be similar to those described above under the Proposed Action.

5.11.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

There would be no direct or indirect impacts to aquatic communities associated with gather operations (helicopter drive trapping and assisted roping, bait or water trapping) under the No Action Alternative.

Cumulative Impacts

As addressed in Alternative A, livestock grazing, energy development and wild horse use are the primary activities that have the greatest potential to influence aquatic communities in the analysis area. Although there appears to be little direct influence from wild horse and livestock use on channel or riparian vegetation associated with the majority of the channels within the analysis area, continued reductions or modifications in upland rangeland conditions associated with year-long wild horse grazing use may lead to increased sediment loads to these systems, which can aggravate downstream sediment delivery to the White River. Over time, heavy sediment deposition in these tributary channel systems would be expected to degrade the suitability of aquatic habitat available for fish, amphibians, beaver, waterfowl, and aquatic invertebrates. Similarly, continued year-long use of perennial and ephemeral ponds by wild horses would be expected to result in degradation of these sites (reduced water quality, reduction in riparian vegetation as a form of cover, etc.).

5.12. Invasive, Non-Native Species

5.12.1. Affected Environment

The state of Colorado has noxious weed species classified into three categories: List A, List B, and List C. List A species are targeted for eradication in Colorado. List B are those plant species which management plans have been developed to limit the spread of these species. List C are those plant species which management plans have been developed to aid in management for the jurisdictions that choose to manage them. There are no List A noxious weeds known to exist outside of the PEDHMA. However, there are several List B species known to occur, but none are known that occur in a large area but more specifically scattered throughout. Known List B species located outside of the PEDHMA are as follows: Hoary cress (*Lepidium draba*) (whitetop), houndstongue (*Cynoglossum officinale*), Russian knapweed (*Rhaponticum repens*), spotted knapweed (*Centaurea stoebe*), musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), Russian olive (*Elaeagnus angustifolia*), salt cedar (*Tamarix spp.*), and halogeton (*Halogeton glomeratus*). The List C species, cheat grass (*Bromus tectorum*), is scattered throughout the analysis area along with common mullein and possibly other early seral annual invasive species.

5.12.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Disturbance of vegetation associated with trap locations, vehicle and human traffic could provide the opportunity for invasive, non-native species to establish in the analysis area. Use of equipment could carry weed seeds and propagate from other areas onto the analysis area. Disturbance to vegetation is expected to be minimal (see Vegetation Section) so opportunity for non-native or weeds to establish and proliferate on any area associated with the project is minimal. The associated design features requiring equipment to be washed, and monitoring trap sites for three years following the gather will minimize the potential for the establishment of new populations of noxious and invasive weeds by minimizing the chance of seeds being introduced to the sites by washing equipment. If new weeds do appear in the project area, ongoing monitoring for three years will allow for early detection rapid response (EDRR) to treat new infestations and hopefully eradicate them from the site before they become too expansive.

Cumulative Impacts

Past and present land uses including: wild horse and livestock grazing; energy development; and dispersed recreation have all contributed to establishment and proliferation of invasive, non-native species in the analysis area. Reductions in the numbers of horse use from the gather will likely decrease the amount of disturbance in the project area from horse use and minimize the amount of new weed populations being established from horses in the analysis area. Cumulative impacts from the gather itself is not anticipated to add additional cumulative impacts to the current situation with the design features provided.

5.12.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Impacts from Alternative B would be the same as those analyzed in Alternative A.

Cumulative Impacts

Cumulative impacts for Alternative B are expected to be the same as those analyzed in Alternative A.

5.12.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

The No Action Alternative would result in no additional soil or vegetation disturbance and result in no change from the current situation in regards to invasive, non-native species from gather operations.

Cumulative Impacts

As addressed in Alternative A, wild horse and livestock grazing, energy development and dispersed recreation are the primary activities influencing rangeland conditions that could impact the kinds and size of the areas of invasive, non-native species in the analysis area. Failure to gather wild horses would allow for continued modification in upland rangeland conditions

associated with year-long grazing use by wild horses that would have the potential to increase both the kinds and size of an area of invasive, non-native species to become established in the analysis area.

5.13. Cultural Resources

5.13.1. *Affected Environment*

The analysis area is known to contain a wide variety of prehistoric and historic resources. Prehistoric sites include but are not necessarily limited to rock art, masonry structures, open lithic scatters, open campsites, and wickiup villages. Such sites seem to be particularly concentrated on the ridges overlooking the various tributaries to the East Douglas, Piceance, Spring, and Yellow Creeks. Recent inventory data suggests that site densities tend to be very high throughout these areas. Historic resources are primarily related to early ranching and livestock grazing efforts and are concentrated along the moister drainage bottoms. Sites include, but are not limited to: old homesteads, line shacks, corrals, pasture fences, and railroad grades.

5.13.2. *Environmental Consequences – Alt A (All Gather Methods)*

Direct and Indirect Impacts

While traps and temporary holding facilities location would be surveyed for cultural resources prior, direct impact to cultural resources could still occur since herding wild horses via helicopter is not a precise process and wild horses might trail through sites as they are herded. If the wild horses are moving at a trot or cantor the force of hoof strikes would be higher than if wild horses are just walking and could cause deeper and more extensive disturbance of site contexts along with crushing or breaking of artifacts. Bait or water trapping would also avoid all known sites and the traps sites themselves would not cause any impacts to known sites. However, as wild horses become habituated to the trap locations prior to being captured they could concentrate in adjacent areas for thermal cover and could select areas where sites are present. The selection of site areas for concentration could result in severe trampling impacts to those sites until the wild horses are captured and removed. These impacts would be permanent and irreversible and cause a loss of scientific data regarding the human use and adaptation to the area over time.

Cumulative Impacts

Livestock and wild horse grazing, energy development, and dispersed recreation are currently the primary activities that have the greatest opportunity to impact cultural resources in the analysis area. Gathering operations would avoid sites to the extent possible in an effort to reduce impacts. Overall impacts to cultural resources would be lower because wild horse numbers would be reduced. However, there would continue to be impacts to cultural resources due to the past and present presence of wild horses in the area such as trampling, increased wind and water erosion, and the other impacts described above. As long as there are wild horses in the analysis area, there would continue to be wild horse related impacts that are cumulative to other past and present land use.

5.13.3. *Environmental Consequences – Alt B (Bait/Water Trapping)*

Direct and Indirect Impacts

Direct impacts to cultural resources would be reduced by not driving wild horses via helicopter or using helicopter assisted roping because it reduces the possibility for wild horses trailing through archaeological sites as they are herded. Bait and water trapping would also avoid all known sites and the traps sites themselves would not cause any direct impacts to known sites. However, indirect impacts could occur as wild horses become habituated to the trap locations prior to being captured they could concentrate in adjacent areas for thermal cover possibly selecting areas where sites are present. The selection of site areas for concentration could result in severe trampling impacts to those sites until the wild horses are captured and removed. The loss of site contextual data is permanent and irreversible and causes a loss of scientific data regarding the human use and adaptation to the area over time.

Cumulative Impacts

Livestock and wild horse grazing, energy development, and dispersed recreation are currently the primary activities that have the greatest opportunity to impact cultural resources in the analysis area. Gathering operations would avoid sites to the extent possible in an effort to reduce impacts. Overall impacts to cultural resources would be lower as wild horse numbers are reduced. However, there would continue to be impacts to cultural resources due to the presence of wild horses in the area and the impacts described above such as increased wind and water erosion, trampling and so on. As long as there are wild horses located outside of the PEDHMA, there would continue to be wild horse related impacts that are cumulative to other past and present land use.

5.13.4. *Environmental Consequences – Alt C (No Action)*

Direct and Indirect Impacts

Not gathering wild horses from the analysis area would result in the continued increase in wild horse numbers and the increase of related impacts. Areas of band concentration would undergo increased trampling of resources, standing archaeological and historical features would experience increases in rubbing and congregating. Increased grazing pressure and reduction in vegetation cover along with soil loosened by trampling would result in increased soil erosion, which would significantly increase the loss of surface features such as hearths, tool stone concentrations or other similar cultural features. The loss of site contextual data would be permanent and irreversible and would cause a loss of scientific data regarding the human use and adaptation to the area over time.

Cumulative Impacts

Wild horses and past and present land uses, such as livestock grazing and foraging by deer, elk, and are expected to continue to occur in the future. The impacts described above, such as increased wind and water erosion, trampling, and so on would continue and intensify as the wild horse population increases. Sites are vulnerable to a number of impacts because of wild horse activity. In areas where wild horses concentrate or trail sites are at risk from trampling which can crush and break artifacts or churn up the soil destroying the site context – the spatial relationship

between artifacts and cultural features. Further, as wild horses rub or scratch on standing features, such as structural walls, wickiup poles or other vertical manmade items these items can be knocked down. Loosing these elements hastens the collapse of architectural features such as wickiups or homestead cabins. In area of concentration, if the vegetation cover is reduced significantly by trampling or grazing the loosened and unprotected soil is more susceptible to wind and water erosion, which can also destroy overall site contexts by eliminating the vertical spacing that, might indicate change through time. Trampling can also cause horizontal movement of artifacts, especially during muddy conditions when items encapsulated in mud adhere to wild horse hooves as they move about.

5.14. Paleontological Resources

5.14.1. *Affected Environment*

The analysis area contains horizontal planes and near vertical outcrops of the geological formations Iles, Uinta, Wasatch, Green River Williams Fork, and Mesaverde Group, which are known to produce scientifically valuable fossils, resulting in Potential Fossil Yield Classifications (PFYCs) 4 and 5 (Tweto 1979, Armstrong and Wolny 1989). The area is known to produce fossils from Paleocene and Eocene mammals, fish, reptiles, birds, invertebrates, and various floras. Inventory data indicate that wild horse trampling can negatively affect exposed fossils. These impacts are manifest by badly fragmented or crushed fossils found on the surface of the more horizontal and gently sloping areas of the formation. In areas where wild horses concentrate and rub on vertical exposures there is the potential to break larger specimens or remove smaller fossil completely from the stone matrix, causing a permanent and irreversible loss of scientific data.

5.14.2. *Environmental Consequences – Alt A (All Gather Methods)*

Direct and Indirect Impacts

Fossils could be directly impacted by gather operations if trap sites and associated wing fences or holding facilities are located in known and reported fossil localities. Careful placement of trap sites and holding facilities would limit the damage to exposed fossils and fossil localities. Herding wild horses via helicopter is not a precise undertaking and wild horses may trail across exposed outcrops of fossil bearing stone as they travel to trap sites or roping areas. There is the potential to damage or destroy some fossil resources as the wild horses trail across the formation, particularly if the rock surface is weathered and soft and the wild horses travel through at a rate of speed greater than a walk. Bait and water trapping pose a limited threat of impacts to fossil resources as traps will be sited to avoid all known or suspected fossil localities and exposed outcrops of stone. A potential indirect impact from bait and water trapping could occur if wild horses concentrate in areas of rock exposure as they become habituated to the trap before capture. Soft and weathered rock exposures could be further eroded by trampling causing loss of smaller fossils to erosion or crushing and breaking of fossils by trampling. Loss of fossil specimens due to crushing or erosion is an irreversible, permanent loss of scientific data.

Cumulative Impacts

The removal of wild horses would reduce adverse impacts to fossil resources. Impacts to fossil resources from the continuing presence of wild horses in the analysis area combined with past and present land use would be reduced under Alternative A. Impacts from livestock grazing, foraging by deer and elk, along with unauthorized developments, such as the creation of new roads by recreational users will continue to occur as they have in the past. All impacts to the regional cultural resource database would be permanent, irreversible, and irretrievable, resulting in an ongoing cumulative loss of scientific data.

5.14.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

Bait and water trapping pose a limited threat of impacts to fossil resources as traps would be placed to avoid all known or suspected fossil localities and exposed outcrops of stone. A potential indirect impact from bait and water trapping could occur if wild horses concentrate in areas of rock exposure as they become habituated to the trap before capture. Soft and weathered rock exposures could be further eroded by trampling causing loss of smaller fossils to erosion or crushing and breaking of fossils by trampling. Loss of fossil specimens due to crushing or erosion is an irreversible, permanent loss of scientific data.

Cumulative Impacts

The continuing presence of wild horses would continue to result in adverse impacts to fossil resources. Impacts to fossil resources from the continuing presence of wild horses in the analysis area combined with past and present land use would result in some continuing, irreversible and cumulative loss of scientific paleontological data. Cumulative impacts would be similar to Alternative A.

5.14.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

Under the No Action Alternative wild horse numbers would continue to increase. With the increase in wild horse numbers there would be a corresponding increase in wild horse concentrating and/or trailing in some areas or rubbing on exposed vertical exposures in other areas. Should those concentration or trailing areas happen to coincide with exposures of fossiliferous stone or rock outcrops there is an increased potential for damage to fossil resources from trampling of or rubbing on the expose rock. The more wild horses there are the greater potential for trailing and concentrating on exposed horizontal surfaces or rubbing on vertical surfaces and the greater the potential impact to fossil resources. Loss of fossil resources under this alternative would potentially be the most severe of the alternatives. The loss of fossil resources and scientific data that accompanies them is permanent and irretrievable.

Cumulative Impacts

The continuing presence and increasing number of wild horses would likely result in adverse impacts to fossil resources. Impacts to fossil resources from the continuing presence of wild

horses in the analysis area combined with past and present land use would result in some continuing, irreversible and cumulative loss of scientific paleontological data.

5.15. Lands with Wilderness Characteristics

5.15.1. Affected Environment

The WRFO has completed an assessment of public managed lands with wilderness characteristics outside of existing WSAs. The BLM Manual 6310 - Conducting Wilderness Characteristics Inventory on BLM Lands, provides the guidance from which the WRFO performed the wilderness characteristic inventory process. In order for an area to qualify as lands with wilderness characteristics, it must possess sufficient size, naturalness, and outstanding opportunities for either solitude or primitive and unconfined recreation. In addition, it may also possess supplemental values.

There are six units identified as containing wilderness characteristics located within the analysis area. These units include: Unit 1-Pike Ridge (14,500 acres), Unit 3-Brushy Point (11,500 acres), Unit 5-Galloway Gulch (5,200 acres), Unit 8-Ernie Howard Gulch (6,400 acres), Unit 15-Hammond Draw (6,100 acres), Unit 17-Boise Creek (7,100 acres).

The WRFO has not yet made management decisions on lands with wilderness characteristics units specifically in regards to wild horses, but has made management decisions for these areas for oil and gas development in the 2015 Oil and Gas Development Record of Decision/Approved RMP Amendment. According to BLM Manual 6320-Considering wilderness characteristics in the land use planning process may result in several outcomes, including, but not limited to: (1) emphasizing other multiple uses as a priority over protecting wilderness characteristics; (2) emphasizing other multiple uses while applying management restrictions (conditions of use, mitigation measures) to reduce impacts to wilderness characteristics; (3) the protection of wilderness characteristics as a priority over other multiple uses.

In the Oil and Gas Development RMPA all of the above units, except Unit 1-Pike Ridge, would be managed to emphasize other multiple uses as a priority over protecting wilderness characteristics (Tier 3). Of Unit 1-Pike Ridge there would be 5,165 acres managed to protect wilderness characteristics as a priority over other multiple uses (Tier 1). The remaining approximately 9,310 acres in Unit-1 Pike Ridge would be managed to emphasize other multiple uses while applying management restrictions to reduce impacts to wilderness characteristics (Tier 2).

5.15.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

The use of helicopters to gather wild horses may result in short term, temporary impacts to those seeking the outstanding opportunities for either solitude or primitive and unconfined recreation found within each identified wilderness characteristics unit. This impact would only be realized if this recreational opportunity is the experience sought by those recreating in these units in the

same area and at the same time as helicopter flights. Based on the planned timing of these proposed activities, it is likely that big game hunters would be hunting in these areas during this time. Big game hunting is considered a primitive, unconfined recreational opportunity and some hunters may also be there to experience the solitude or naturalness of the setting. In order to reduce these impacts to big game hunters, CPW staff would be contacted to coordinate gather operations in an effort to develop mutually compatible strategies that may reduce the intensity and localize the expanse of helicopter related disturbances during big game hunting seasons. Also, if possible helicopter gather operations would be avoided from late-August through November for high public use areas during big game hunting seasons.

The use of water and/or bait traps as gather methods combined with holding facilities may result in up to a total 50 acres of trampled ground. These concentrated areas of use may initially not appear natural immediately after use. According to BLM Manual 6310, apparent naturalness refers to whether or not an area looks natural to the average visitor who is not familiar with the biological composition of natural ecosystems versus human affected ecosystems. However, these areas are expected to naturally reclaim and would be monitored for any noxious weeds for up to three years. This would therefore be a short term, temporary impact to the naturalness of these small localized areas, but would result in no long-term impacts to the wilderness characteristics found within these units.

Cumulative Impacts

Combined with other past, existing, and foreseeable activities in the analysis area, this alternative is likely to not have any long-term impacts in these lands with wilderness characteristics units.

5.15.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

The use of water and/or bait traps as gather methods combined with holding facilities may result in up to a total 50 acres of trampled ground. These concentrated areas of use may initially not appear natural after use. According to BLM Manual 6310, apparent naturalness refers to whether or not an area looks natural to the average visitor who is not familiar with the biological composition of natural ecosystems versus human affected ecosystems. However, these areas are expected to naturally reclaim and would be monitored for any noxious weeds for up to three years. This would therefore be a short term, temporary impact to the naturalness of these units, but would result in no long-term impacts to the wilderness characteristics found within these units.

Cumulative Impacts

Combined with other past, existing, and foreseeable activities in the analysis area, this alternative is likely to not have any long-term impacts in these lands with wilderness characteristics units.

5.15.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

This alternative would result in no short term temporary impacts such as those described under Alternative A.

Cumulative Impacts

Combined with other past, existing, and foreseeable activities in the analysis area, this alternative is likely to not have any long-term impacts in these lands with wilderness characteristics units.

5.16. Recreation

5.16.1. Affected Environment

The analysis area is located in the central portion of the WRFO and the primary recreational activity in this area is big game hunting. The analysis area consists of the majority of CPW's Game Management Unit (GMU) 22 (632,893 acres), slightly less than half of GMU 21 (569,332 acres) and small portions of GMU 31 and 32. The CPW big game seasons (archery, muzzleloader, and 1st-4th rifle seasons) run from late August through mid-November of each year. GMU 22 is managed as an over-the-counter, unlimited antlered elk license area that in 2016 had 2,613 elk hunters for all manners of take with 13,273 recreation days and a 23 percent success rate according to CPW statistics. GMU 22 is also popular deer hunting unit with 770 hunters in 2016 for all manners of take with 3,854 recreation days and a 75 percent success rate. GMU 21 is managed by CPW as a trophy mule deer hunting area with 379 mule deer hunting licenses issued in 2016 with 1,957 recreation days and an 81 percent success rate. GMU 21 also provides excellent elk hunting opportunities with 2,289 elk hunting licenses issued in 2016 with 11,912 recreation days and a 19 percent success rate.

There are currently 20 Special Recreation Permits (SRPs) for commercial big game guiding and outfitting with authorized operating areas within all or parts of the analysis area. Elk and deer hunters have notified both WRFO staff and CPW staff that wild horses have negatively impacted their desired hunting experience and opportunity. This has typically occurred in localized areas, such as water sources, when these areas are occupied by wild horses and the hunted big game was thought to have been displaced from these areas by wild horses by these hunters. GMU 21 has a 2016-2017 CPW mountain lion harvest quota of 15 and GMU 22 has a 2016-2017 CPW mountain lion harvest quota of 17, which are some of the highest GMU mountain lion harvest quotas in the state. The mountain lion hunting season generally runs from mid-November through April each year. There are currently fourteen SRPs for commercial mountain lion guiding and outfitting permitted to operate throughout the entire WRFO, several of these outfitters guide mountain lion clients in GMU 21 each year.

One of the eight developed recreation sites in Canyon Pintado National Historic District (CPNHD) is located within the analysis area along the east side of State Highway 139. The South Orientation Site is developed with signage, surfaced parking areas, vault toilets, and

interpretive panels for learning about the unique rock art at each site. According to BLM traffic counter data the South Orientation Site received over 10,700 visits in 2016.

Other recreational activities that occur within the analysis area at lower and more dispersed levels include recreational Off-Highway Vehicle (OHV) riding, hiking, mountain biking, wild horse viewing, and rock climbing. There are currently no developed facilities that support these activities in the analysis area.

5.16.2. Environmental Consequences – Alt A (All Gather Methods)

Direct and Indirect Impacts

Helicopter drive-trapping or helicopter assisted roping to gather wild horses may impact big game hunter's desired recreation experience and hunting success if low flying helicopter operations occur at the same time and place as those hunting. The tentative preliminary gather dates of seven days in August or September 2017 could overlap with CPW archery (August 26-September 24, 2017) and muzzle loading (September 9-17, 2017) big game hunting seasons. Based on CPW hunting seasons and statistics the action described under this alternative could have a maximum impact on the desired experiences and success of up to approximately 900 archery elk hunters and/or 197 muzzleloader elk hunters. This could also have a maximum impact on the desired experience and success of up to approximately 100 archery deer hunters and 63 muzzleloader deer hunters. It is unlikely that all hunters would be impacted as a result of implementing this alternative because the analysis area does not cover the entire GMU, the statistics include private land hunting, and the helicopter would have to be flying in the same area and same time as the hunting is taking place. Also, if the gather operations only take seven days, there would be numerous hunters that would likely be hunting during dates when there are no gather operations in these areas.

The design features and the timing of the proposed gather operations are intended to impact fewer individual hunters than other times during the October through November big game rifle hunting seasons when the majority of hunting is taking place. If helicopter based gather operations are conducted during the big game hunting seasons, CPW staff would be contacted to coordinate gather operations in an effort to develop mutually compatible strategies that may reduce the intensity and localize the expanse of helicopter related disturbances during big game hunting seasons. In an effort to reduce the potential for helicopter flights to be where commercial big game outfitters are planning to guide clients, the 20 SRP holders for commercial big game guiding and outfitting would be notified of the gather activities and specific locations and dates as soon as BLM knows. A long-term positive effect to big game hunters may be realized in localized areas where desired big game hunting opportunities and experiences may be improved. This may occur at water sources or concentration areas that were formerly occupied by wild horses where now big game will no longer be displaced from these areas. Therefore desired big game hunting experiences and opportunities may be improved in these areas over the long-term as a result of this alternative.

The gather may result in visitors not being able to view as many wild horses in this area as before the gather. However, this opportunity would still be available and appropriate on nearby

public lands in the PEDHMA. Also, every gather day is considered a public observation day according to WOIM #2013-058 (Wild Horse and Burro Gathers: Public and Media Management). This provides the public an opportunity to view the gather operations. This alternative is not expected to have any impacts to the developed recreation sites located within the analysis area because no traps or holding facilities would be located within or impede the use of these sites. This alternative is not expected to have any other substantial or long-term impacts to any other recreational activities, opportunities, or experiences in the analysis area.

Cumulative Impacts

Combined with former, existing, and potential future oil and gas development and production, livestock grazing, wild horse gathers, recreational activities, rights-of-ways, and other public land use activities there are no known cumulative effects identified for recreational experiences, settings, or opportunities as a result of gathering of wild horses.

5.16.3. Environmental Consequences – Alt B (Bait/Water Trapping)

Direct and Indirect Impacts

This alternative would result in impacting fewer big game hunters than Alternative A because a helicopter would not be used to gather wild horses. However there may be a small number of hunters impacted at water trap sites that are planned to be used as part of their hunting strategy.

Other recreation related impacts would be the same as described under Alternative A.

Cumulative Impacts

Combined with former, existing, and potential future oil and gas development and production, livestock grazing, wild horse gathers, recreational activities, rights-of-ways, and other public land use activities there are no known cumulative effects identified for recreational experiences, settings, or opportunities as a result of gathering of wild horses.

5.16.4. Environmental Consequences – Alt C (No Action)

Direct and Indirect Impacts

By not gathering any wild horses, there would be no direct impacts to big game hunters or any other recreationalists starting in 2017. Indirectly by not removing wild horses, hunters may continue to have diminished hunting experiences and opportunities in localized areas where wild horses are reported to be displacing big game. Recreationalists would likely continue to see wild horses in this area. Some recreationalists may perceive this as a positive experience and opportunity while others may see this as providing a more negative experience.

Cumulative Impacts

Combined with former, existing, and potential future oil and gas development and production, livestock grazing, wild horse gathers, recreational activities, rights-of-ways, and other public land use activities there are no known cumulative effects identified for recreational experiences, settings, or opportunities as a result of gathering of wild horses.

5.17. Colorado Standards for Public Land Health

In January 1997, the Colorado BLM approved the Standards for Public Land Health. These Standards cover upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. If there is the potential to impact these resources, the BLM will note whether or not the analysis area currently meets the Standards and whether or not implementation of the Proposed Action would impair the Standards.

5.17.1. Standard 1 – Upland Soils

The locations of traps and/or holding facilities are planned for pre-disturbed sites with initial design features and/or mitigation in place. As such, upland soils in and around the traps and/or holding facilities would not be negatively impacted by Alternatives A or B. Under Alternative C, long-term negative impacts on the upland soils could be realized as wild horse numbers continue to increase and make unregulated year round use in those areas located outside of the PEDHMA.

5.17.2. Standard 2 – Riparian Systems

Wetland and riparian zones are unlikely to be impacted by helicopter drive trapping operations. If water sources which support wetland or riparian zones are chosen for water trapping operations, these operations are not likely to increase the amount of use these areas receive under natural conditions. As the trap sites are continuously monitored while actively in use there would not be an opportunity for increased or prolonged congregation within these areas from the present situation during gather operations. Under Alternative C, long-term negative impacts on any riparian systems located outside of the PEDHMA could be realized as wild horse numbers continue to increase and make unregulated year round use in the limited riparian areas located outside of the PEDHMA.

5.17.3. Standard 3 – Plant and Animal Communities

Alternatives A and B are not expected to have an influence on plants and animal communities and, as such, the project should have no influence on the status of applicable Land Health Standards. Cumulative impacts from Alternative C could have long-term impacts to plant and animal communities due to increased forage use.

5.17.4. Standard 4 – Special Status Species

Alternatives A and B are not expected to influence populations or habitats of plants and animals associated with the Endangered Species Act or BLM sensitive plant and animal species and, as such, the project should have no influence on the status of applicable Land Health Standards. Cumulative impacts from Alternative C could have long-term impacts to plant populations due to increased forage use.

5.17.5. Standard 5 – Water Quality

The locations of traps and/or holding facilities are planned for pre-disturbed sites with design features and/or mitigation in place. As such, ephemeral and perennial water quality in and around

the traps and/or holding facilities should not be negatively impacted by the Proposed Action. Under Alternative C, long-term negative impacts could be realized as wild horse numbers continue to increase in areas located outside of the PEDHMA due to a continuous, concentrated use of this resource.

6. SUPPORTING INFORMATION

6.1. Interdisciplinary Review

Table 8. List of Preparers

Name	Title	Area of Responsibility	Date Signed
Keith Sauter	Hydrologist	Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Soils Resources, Prime and Unique Farmlands	04/12/2017
Lisa Belmonte	Wildlife Biologist	Special Status Animal Species, Migratory Birds, and Aquatic and Terrestrial Wildlife	04/17/2017
Tyrell Turner	Rangeland Management Specialist	Vegetation, Livestock Grazing, Wetlands and Riparian Zones	04/25/2017
Matthew Dupire	Ecologist	Special Status Plant Species, Forestry and Woodland Products, Areas of Critical Environmental Concern	04/20/2017
Sarah MacDonald	Archaeologist	Cultural Resources, Paleontological Resources, Native American Religious Concerns	04/21/2017
Aaron Grimes	Outdoor Recreation Planner	Visual Resources, Lands with Wilderness Characteristics, Recreation, Access and Transportation, Wilderness, Scenic Byways	04/18/2017
Paul Daggett	Mining Engineer	Air Quality; Geology and Minerals	04/07/2017
Bob Klages	Fire Management Specialist	Fire Management	04/25/2017
Stacey Burke	Realty Specialist	Realty Authorizations	03/29/2017
James R. Roberts	Supervisory Natural Resource Specialist	Hazardous or Solid Wastes	04/25/2017
Melissa J. Kindall	Range Technician	Invasive/Non-Native Species, Wild Horse Management/Project Lead	05/03/2017
Heather Sauls	Planning & Environmental Coordinator	Social and Economic Conditions, NEPA Compliance	05/07/2017

6.2. Tribes, Individuals, Organizations, or Agencies Consulted

Letters describing the proposed action were sent to the Eastern Shoshone Tribes (Wind River Reservation), Ute Indian Tribe (Uintah & Ouray Reservation), Southern Ute Indian Tribe, Ute Mountain Ute Tribe, Pueblo of Jemez, and The Hopi Tribe on April 20, 2017.

In addition, the BLM archaeologist presented the proposed action to tribal representatives from the Ute Indian Tribe (Uintah & Ouray Reservation) and the Ute Mountain Ute Tribe at the Bi-Annual Tribal Consultation Meeting April 18, 2017. No concerns have been noted by tribal authorities.

6.3. References

Armstrong, Harley and David Wolny. 1989. *Paleontological Resources of Northwest Colorado: A Regional Analysis*. Museum of Western Colorado, Grand Junction, Colorado.

Bureau of Land Management (BLM) Manual 6310 - Conducting Wilderness Characteristics Inventory on BLM Lands. C. (2) (b) pg. 6-7 Rel. 6-129. March 15, 2012

BLM Manual 6320 - Considering wilderness characteristics in the BLM land use planning process. A. pg. 3 Rel. 6-130. March 15, 2012.

BLM Manual 6330 - Management of Wilderness Study Areas. C. 1-10. D (10) 1-36. Rel. 6-134. July 13, 2012.

Grandin, Temple, Ph.D. "Handling Mustangs. Equine behavior researcher Temple Grandin discusses a scoring system that evaluates handling of mustangs at BLM facilities." *Western Horseman*. April 2001: pages 180 – 186.

Davis, R.M. 1976. *National Range Handbook* U.S. Department of Agriculture, Soil Conservation Service, Washington D.C., July 13, 1976.

Tweto, Ogden. 1979. *Geologic Map of Colorado*. United States Geologic Survey, Department of the Interior, Reston, Virginia.

Appendix A. Map

Map 1. Gather/Removal Area Outside of the PEDHMA

